

REALLY TRULY NATURE STORIES

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JOHN S. WOODRUFF



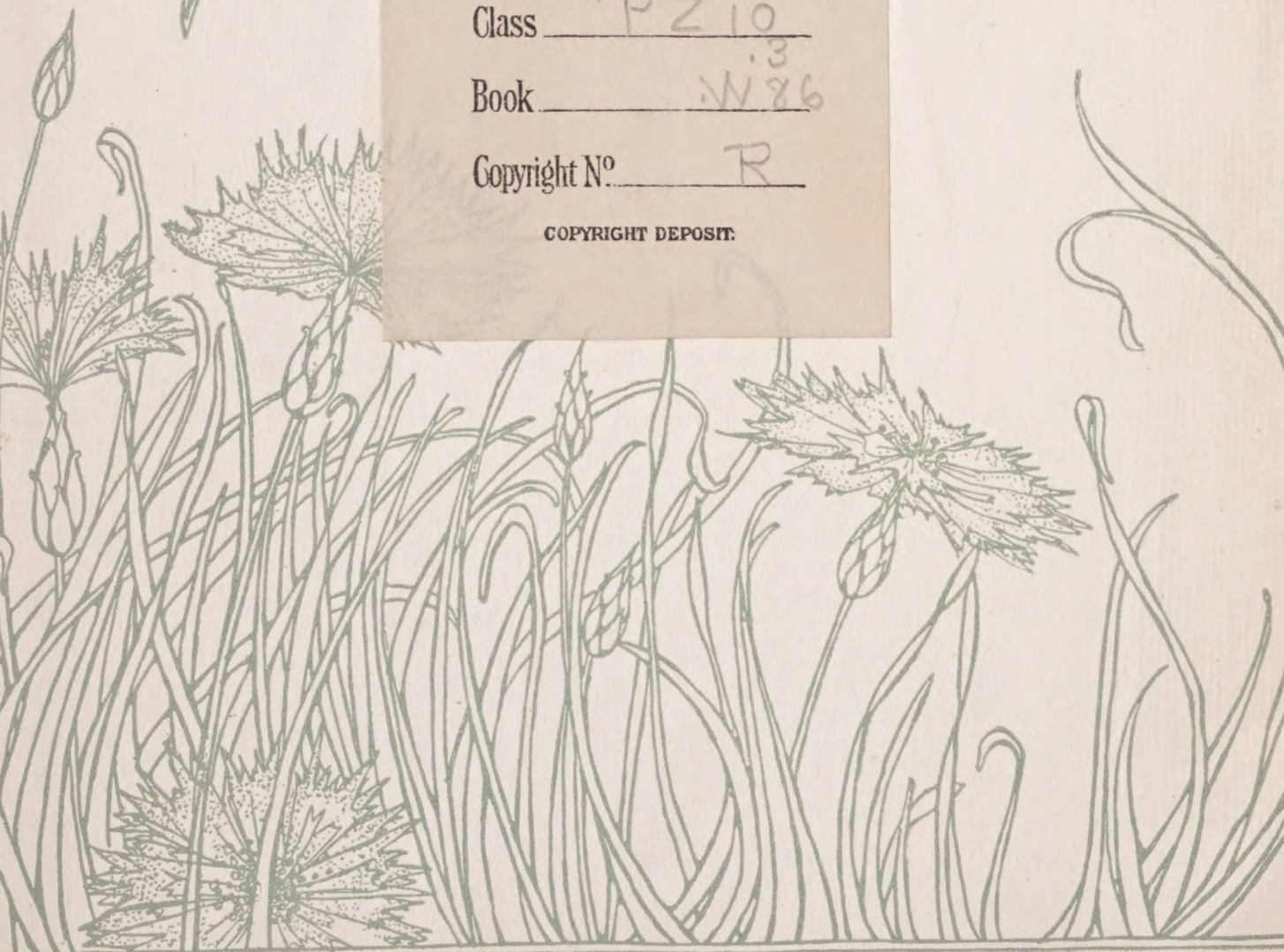


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By HELEN S. WOODRUFF

By HELEN S. WOODRUFF

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REALLY TRULY NATURE STORIES

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GEORGE H. DORAN COMPANY
NEW YORK



THE MUSKRAT

REALLY · TRULY NATURE · STORIES

Children
out of Doors

BY

HELEN S. WOODRUFF



With Decorations by
GISELDA M. MCCLURE and LEWIS B. WOODRUFF



NEW · YORK

GEORGE · H · DORAN · COMPANY

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To
MY GOD-SON
CLITHERAL BIRCH LAWRENCE
ON HIS CHRISTENING

*To you, dear little christened lad, dear little God-son Boy,
Is given the World, with all its gifts; 'tis jam-cram full of joy:
Childhood's bright days, kind words, sweet thoughts and Mother-loving hours,
The happy birds, all out-door-folk, and Heaven-kissed, fragrant flowers,
The brooks, the woods so deep and cool, the fields, the sky so blue;
The World holds out its welcoming arms, the sunshine shines for you.
So, as these Gifts were given me, my little God-son Lad,
I share them all with you today, to make your whole life glad.*

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REALLY TRULY NATURE STORIES



The Muskrat



ATE one afternoon, when the sky was still blushing because the sun had kissed her before he went to bed, Pal and I were coming home from a tramp. As we walked along the bank of a stream which reflected the rosiness of the sky, a most delicious odor was wafted to us from the water. I sniffed it in, and said, "Oh how good that smells! There must be a heliotrope bed around here somewhere."

Pal drew in a long breath of pleasure.

"It is delicious; but it is musk, not heliotrope."

"Musk?" I asked. "What's musk?"

"It's a liquid which the Muskrat carries in two little sacs in his body, and uses as a perfume to attract other Muskrats. If it were not so dark," Pal continued, "we could watch for them, for I am sure there must be a pair living in this bank; and then I would tell you their whole story."

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"Oh, pshaw!" I said. "I wish it wasn't so dark, so I *could* see them!"

Just then, however, a happy thought struck me, and I asked, "Why can't we come down here in the morning? Won't they still be here?"

"Yes, they'll be here," he answered. "That's a good idea. When you get home you can ask Tommy and Willie if they want to come, and we can start right after breakfast."

"Oh, that will be lovely!" I cried excitedly, and we crossed the meadow and went into our grove, from which we could see the light in Mother's room beckoning us to come home to supper.

I suppose you know that my Pal has charge of a great big museum where they have all kinds of butterflies and moths and animals, and lots of things. I thought at first that he was cruel, because he caught some of the beautiful little butterflies in a poison bottle, and killed them. But, you see, he has to do that in order to study them; and then he goes out in the woods and fields and watches live ones like them, so that he can write books all about their habits, telling which are our enemies, and which are our friends. He puts what he catches in a glass case in the museum, so that other people can study them, too; for he thinks that everyone should learn to know about the little wood-folks that live all around us.

The next morning, bright and early, the four of us crossed the meadow and were soon standing on the edge of the sluggish little stream which lay like

a clear, blue mirror between the tall grasses that grew along its banks.

"Now," said Pal, pointing to the muddy bank opposite, "see that round hole just beneath the surface of the water?" We looked, and saw it quite plainly; a hole the entrance of which was about twice as big around as a cup.

"Hooray!" said Tommy. "I believe I'll poke this stick in it and see what's there!"

"I can tell you what's there," said Pal, taking the stick away. "That is the entrance to the home of Mr. and Mrs. Muskrat."

"But it is under water!" Willie said; "I should think their home would be flooded all the time!"

"No, that is the clever part of it. It looks so to us, from here, but should we examine it more closely, or poke a stick in, as Tommy suggested, we would find that it has been burrowed slantingly upward from the water until a level was reached above the water line. From this point a hallway extends for several yards, ending in a big round room."

"So the water can never get in there," I said. "Isn't that clever?"

"But why do they have the entrance under water, then?" Tommy asked. "It seems to me that's awfully silly!"

"They have it there," explained Pal, "because that makes it more difficult for an enemy to find it, such as a weasel, which is a land animal. If the entrance were above the water it would be very easy for him

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to crawl in and kill the Muskrat's babies. But it is all right for the Muskrats to have the entrance under water, for they are mainly water animals, living on plants and roots that grow beneath the surface."

"How can they breathe under water?" asked Willie.

"They cannot, but have to come to the surface every few minutes to fill their lungs with fresh air."

"So that is the reason their rooms are made above the water level, is it, so they can breathe all right?" I asked.

"Yes, partly, but also, as you have seen, so their homes won't get flooded."

"Oh, what is that thing floating towards us?" I exclaimed; and we stopped looking at the hole, and began watching an object coming down stream.

"It looks like a head!" Willie cried.

"Don't see nothin' that looks like a head," said Tommy!"

"There! that thing right there, Tommy!"

"That ain't no head!"

" 'Tis, too!"

"It certainly is," I put in. "Isn't it, Pal?"

"Yes," said Pal; "there's your Muskrat."

But just then down went the little head out of sight.

"I am afraid he saw us, children, and if so we will see no more of him; for he is a very timid creature, diving at the slightest approach of danger, and swimming under water until the danger is past.

"Oh, I wish I could see one!" I said. "What are they like, anyway?"

"Like a rat," said Tommy, "or they wouldn't be called Muskrats."

"Do they look like rats, Pal?" I asked.

"Not very much," he said, "though they belong to the same general family as the rat. Their bodies, which are about fourteen inches long, are covered with a soft brown fur, so near the color of the muddy banks where they live that I have often watched one a very long time before I could tell whether it was a lump of mud, or a living creature."

"Must be mighty ugly," observed Tommy.

"They are not, Tommy. On the contrary, their fur is so handsome there is grave danger that trappers, who catch them so that they may get their fur in order to sell it, will kill them all, so there won't be any left in a few years."

"Oh, that would be too bad!" I said. "But what is done with the fur?"

"It is used to line coats and make muffs, and all sorts of things to protect us from the cold."

"Has it a tail like a rat?" asked Willie.

"Yes, like a rat, because it has no fur on it; but it differs in that it is flat on the sides, thus making it look very thin through, and it is almost as long as its whole body. Its hind feet are different from a rat's, also, for they are webbed like a duck's, to help it in swimming. I'll show you one when we get home."

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"Hooray!" said Willie. "Let's go home right now!"

"Not yet," said Pal, "for I'd like to show you something else that the Muskrats do. All Muskrats do not live in mud-banks like these, but build houses for themselves of reeds and cat-tails."

"Oh, do show us one," I begged.

"Very well, if you don't mind walking that far, for there are several in the pond into which this little stream flows."

Of course we all wanted to go and followed Pal through the tall grass and flowers that grew along the edge of the stream as it wound itself, in and out, through meadows and little strips of woodland. Finally we came to the pond that lay fast asleep in the sunshine. And there, near the shore upon which we stood, were several structures that looked like big bushel baskets turned upside down.

When we saw them I danced and clapped my hands, they looked so like a cute little hut village huddled there in the shallow water.

"That one, I think," Pal said, pointing to the one nearest us, "is not lived in; so suppose we wade out to it and you can see for yourselves how cleverly it is built."

"Hooray!" yelled the boys, wading in, and splashing Pal and me, for we had taken off our shoes and stockings and followed close upon their heels. We reached the house and Pal made a hole in the top.

"Look down in here," he said. "See, there is a

floor above the water line, and there, where you see that little opening in the floor, is the passage by which they get to the lower story, beneath the surface of the water."

"Gosh!" said Tommy. "Do you mean to say they build two-story houses?"

"Yes," Pal answered. "The lower story has the door or hole by which they enter under the water. From this lower room they climb up into the upper room, where they can keep warm and dry, to sleep, and take care of their babies. Then, too, when all the rest of the pond freezes over, the water in these huts is kept open by the warmth of the Muskrats' bodies and the closely thatched walls of their houses. Thus, you see, they are able to go out through the lower story into the pond, even in winter, and feed in the water under the ice."

"I should think they'd freeze," I said.

"No," Pal replied. "Their fur coats are thick and warm, and they do not mind the cold, and when they are not asleep they can go in and out as freely as they do in summer, hunting for food."

"Well, how do the ones that live in the mud bank get their food in winter, when the water is all frozen over?" I asked.

"Exactly the same way, Pyxie; for they have several entrances to their homes, some lower than others, which open out under the ice, just as the lower story of this house does."

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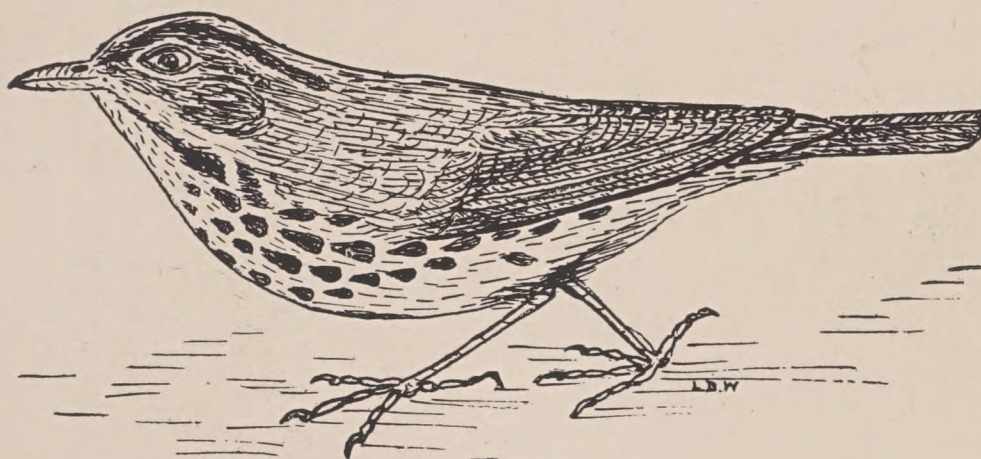
“Well, I must say,” said Tommy, “I think they’re a pretty decent sort of an animal.”

*The Muskrat's fur is soft and brown,
Its tail is bare and flat,
It feeds on water plants that suit
The taste of a Muskrat.*

*It finds, when swimming in the stream,
Much help from webbed hind feet.
And gives forth in the evening
A smell of musk, real sweet.*

*In a home made in a river bank
By burrowing in the clay,
Mr. and Mrs. Muskrat
And their babies stay.*

*But another family,
Cousins, I should say,
Build two-story houses
Not so far away.*



THE OVEN-BIRD



The Oven-Bird



HERE are you going, Pal?" I called, as I saw him go down our front steps.

"Why, hello, Pyxie!" he said. "I am just going as usual for a little tramp in the woods. Would you like to go with me?"

"Oh, yes, indeed! Please wait till I put on my old shoes."

He waited, and I joined him in a minute just as Willie and Tommy came running around the corner and almost bumped into us.

"Hey!" yelled Tommy, "who do you think you're running over? Where are you going, anyhow?"

"I'm going tramping with my Pal. Can Willie go with us, Pal?"

"Hooray!" said Willie. "Me for a tramp every time."

I wasn't going to ask Tommy because he made faces at me last night, but Pal said: "Come here,

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you little wild Indian, you can go, too, if you'll behave yourself."

We were soon deep in the woods where it was cool and shady, and no sounds reached us except those of the little wood-folks, so busy talking over their daily news. Suddenly I heard the fluttering of wings, and, looking down at my feet, saw a little lame bird. She was olive brown, with a speckled breast, and two lines on her head, between which was a golden yellow band. The bird was trying its best to walk or fly, I couldn't tell which. It limped badly, and one wing dragged upon the ground.

"Oh, look at the poor little bird!" I cried, stooping and trying to pick it up; but each time I would try to do so it would flutter just out of my reach. Then Willie tried to catch it, for he, too, felt awfully sorry, and wanted to help it.

"Humph!" Tommy said. "Somebody has shot her—that's all that's the matter with *her*. Bet I can catch her." And he joined the chase, all three of us trying our very best to cover her with our hands, and pick her up.

"Hold on!" said Tommy. "I'll run around and head her off, so she can't get away."

But just as Tommy was heading her off she quickly leaped from the ground, flew into the air, and disappeared among the trees.

"For goodness sake!" I said. "I don't see how she can fly when she was so badly hurt! Come, let's run back and tell Pal about her." For we, in trying

to catch the bird, had left Pal standing several yards behind.

"Say! did you see that bird with the broken wing?" called out Willie. "She looked like she had been shot. But I don't see how she could fly like she did."

"Poh! I wasn't surprised to see her fly," Tommy boasted.

"Pal," I said, "you are laughing at us! Now do tell us what it all means."

"Well, children," said Pal, "come here and stand about me. So. Now look very, very closely at the dry leaves banked about that clump of tall ferns in the shade of this oak. Can you see anything?"

We looked and looked, but could see only just what Pal had told us was there—the leaves and ferns.

"Why, Pyxie, your bright eyes aren't so bright as I thought they were! Can't you see those three little heads, and six little eyes, peeking at us through the leaves? There, and there and there!"

And sure enough, when Pal pointed them out, we could see among the leaves three little baby birds watching us.

"And there's another one!" I cried, as I saw a fourth little head stuck out.

"And there's still another," Willie said, "right there, near the tree!"

"Hurrah! They'll be easy to catch," Tommy hollered, and started towards them.

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"No, Tommy, you must not catch them," my Pal said, "for it would frighten them dreadfully and that would be wrong."

"Well, they are just the cutest little baby birds I ever saw," I said. "Please tell us all about them."

"They are the babies of the Oven-bird that flew away a few minutes ago," replied Pal. An Oven-bird builds its nest upon the ground, well concealed among the dry leaves and ferns, and as soon as her babies have hatched from the eggs and their wings have got their feathers, she brings them out of the nest, and keeps them among the dead leaves until they learn to fly. She does this because they are so nearly the color of the leaves that weasels and skunks and other enemies will not be so apt to see them, and eat them up.

"She fooled you well, children, just now, when you were trying to catch her. That's the reason I was laughing," he continued. "For she wasn't lame at all, but only pretending to be, to draw you away from where her young ones were hidden."

"Do all birds do that when they have young ones?" Willie asked.

"Oh, no. That is just the Oven-birds' special way of protecting their babies until they are old enough to look out for themselves."

"I think that is the smartest thing I ever heard of, don't you?" I said, turning to the boys.

"I certainly do," Willie said.

"Humph!" sniffed Tommy, kicking at the dead leaves; "that ain't so awful smart. I've heard of things a heap smarter than that."

"Yesterday," continued Pal, without paying any attention to Tommy's pretended disdain, "I was walking a little further on in this wood, and I came across a couple of these birds that had just set up house-keeping and built a nice nest."

"Oh, do take us there and show them to us, Pal," I begged.

"It would be bully if they have eggs in their nest," Tommy said.

Pal agreed, and we tramped on through the woods until we came to a lovely cool brook tumbling over the stones.

"Let's cross over the brook here," said Pal. "That's it. Now walk as lightly as you can, children, and look closely at that clump of ferns on the bank. There! See that small mass of dead leaves and grass with a hole in the side, just beneath those arching ferns."

"Oh, is that the nest?" I asked. "It's just the shape of an old Dutch oven in one of my picture books."

"Yes, Pyxie, that is the nest we were looking for, and the bird that built it is called an Oven-bird because she builds her nest that shape. Now tip-toe still closer, and we will peep in at her eggs."

"Teacher, teacher, teacher, teacher, teacher!" broke out in a loud shrill cry in the tree above our

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heads, and then came a sharp "chirp," as we stopped in time to see the mother-bird slide off her nest and fly away.

"What was that, saying 'Teacher, teacher?'" I said, looking up in the tree.

"It sounded like he was calling you," Willie said, turning to my Pal, "for you are our teacher."

"Oh, pshaw!" said Tommy, "birds can't talk—nothing but parrots."

"Well, he was talking anyhow, wasn't he, Pal?"

Pal laughed. "It did sound as though he were, Pyxie, I must admit, but it really was the father Oven-bird singing; and that sharp chirp that followed the song was his note of warning to the mother bird, who was sitting upon her eggs, that we were getting too near. For always when she is sitting upon the eggs to keep them warm and hatch them into little baby birds, he is hunting food for her near by, and warns her by his cry of any approaching danger.

"Now, children," he went on, "we can peep into the nest, and look at the eggs. See—there are one, two, three, four, five small white eggs, with large lilac and brown spots mostly at the larger end, and there is a larger egg that is white, but covered with small brown specks."

"Why, how funny!" Willie said. "What makes her lay two kinds of eggs?"

"I am just going to explain that, Willie. The five eggs that look alike belong to *her*, and when she

hatches them out the little birds will look just like those that you saw peeping out from among the leaves."

"But what is that larger egg then? Isn't that going to hatch into an Oven-bird, too?"

"No," said my Pal. "That is going to hatch into a Cow-bird."

"A *Cow*-bird!" Willie and I exclaimed almost in the same breath. "What is a Cow-bird?"

"Shucks!" muttered Tommy. "There ain't no such bird. A bird can't look like a cow!"

"No, it does not look like a cow, Tommy. It is called a Cow-bird for another reason. It is a rather long story, however, so if you will come away from the nest and let the mother-bird return, we will sit down on that big rock and I will tell you about it."

So we all went over to the rock and sat down and Pal began:

"Cow-birds are the laziest birds in the whole wide world, and are so called because they follow after cows to eat the insects which they kick up as they move slowly about the pasture. In this way, you see, they get their food without having to hunt for it themselves. And they are lazy in another way, too. When Cow-birds mate they don't go to work, as other birds do, to build a nice, neat little nest for themselves, but the mother Cow-bird, which is not black like the father Cow-bird, but gray, and about twice the size of the Oven-bird, waits 'round near some other bird's nest until that bird leaves it a few mo-

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ments for food. Then in she slips, lays an egg, and flies away, leaving it for the other bird to keep warm, hatch out into a baby bird, feed, and teach to fly with her own little ones. Thus Cow-birds fly about the country, leaving an egg here and there in other birds' nests, as you saw one has done in our Oven-bird's, because they are too lazy to bring up their babies themselves."

"Well, I think they are perfectly horrid!" I said.

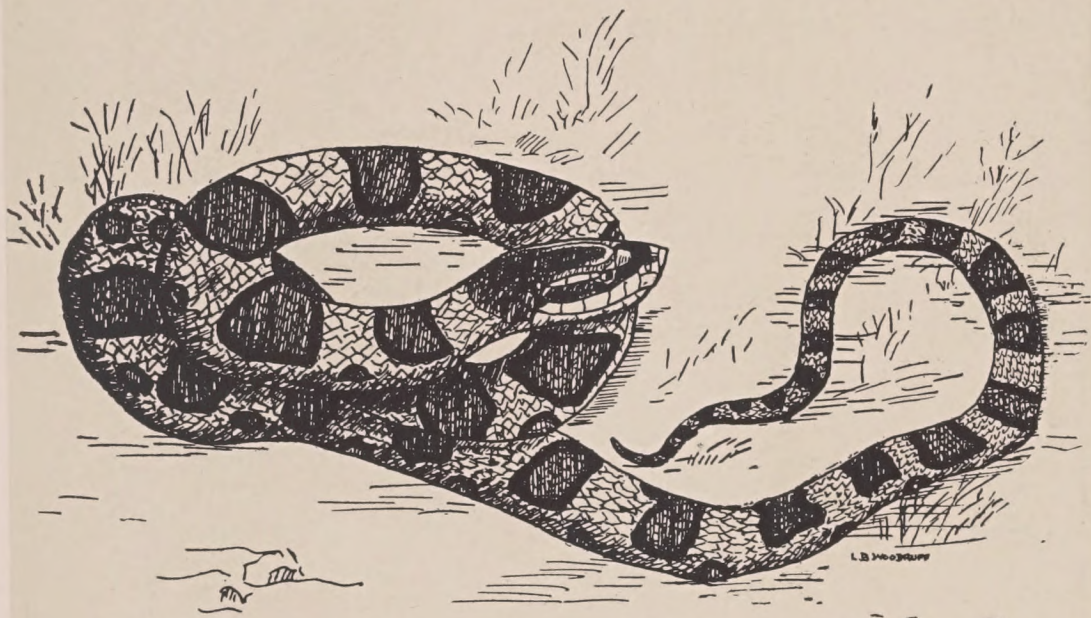
"But the other birds are awful nice about it, I think," said Willie.

"I'll bet they don't know the difference," Tommy sniffed.

"I bet they do," I said.

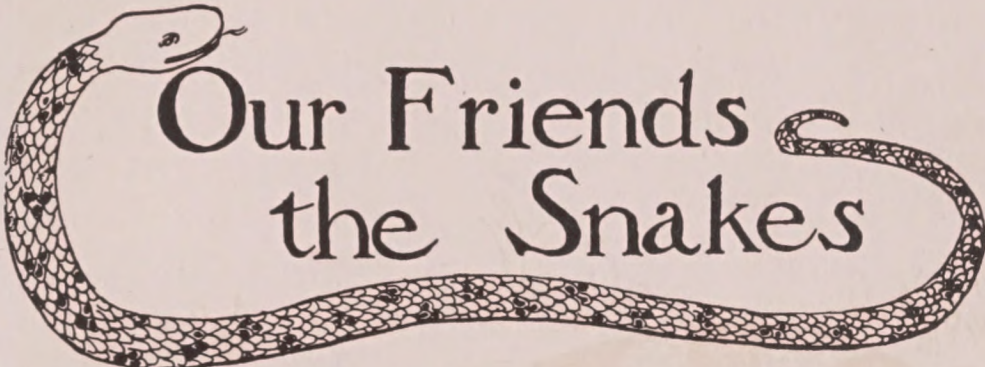
"Well, children, betting won't decide that question, and as a matter of fact we don't know whether they do or not."

*The Oven-bird builds its nest upon the leafy ground;
Its head is striped in gold and black, its body's olive
brown,
The Cow-bird is a lazy thing, and builds no nest, you
see,
But lays its eggs in small birds' nests wherever they
may be.*



A FRIENDLY MILK SNAKE

Our Friends the Snakes



MY PAL and I were walking across a meadow one day while the sun was shining and the trees were beckoning us from beyond, when I noticed in front of us on a stone, sunning itself, a great big snake.

"Oh, Pal!" I cried, "look at that snake!" And I began to pick up stones as hard as ever I could; but Pal just stood and watched the snake.

"What are you going to do with those stones?" he asked, looking rather crossly at me.

"Why, I am going to kill that nasty, horrid old snake," I said.

"There is nothing horrid or nasty about that snake, Pyxie. Its coloring is beautiful! And see how graceful its curves are as it lies there!"

"Yes, but it might bite us."

"No, it will not bite us; and if it did it wouldn't poison us. That snake is harmless." Just then Willie

and Tommy and several other boys came running toward us with big sticks and stones in their hands. At the noise of their approach the snake gave a startled look and glided from the stone, moving swiftly through the grass at our feet.

"Look out! There's a great big snake over here that we came over to kill," said Willie. "We saw him sunning himself on that rock just before you came into the meadow."

At that instant Tommy must have spied the snake, for he began beating the grass and yelling, "Come on, fellows! I'm killing him!"

With that my Pal looked mad, and rushing over to him took the stick from his hand. "Tommy," he said severely, "I am surprised to see a nice boy like you killing an innocent creature."

"But it's a snake!" objected Tommy. "Everybody kills snakes."

"No, not everyone. Only those who do not know that they are our friends."

"Our friends!"

I looked at the boys. "I bet you don't know as much about snakes as my Pal does," I said.

"Bet you don't, either," said Tommy, defiantly.

"Well, well, children," Pal interposed. "None of you know very much about them, I am afraid; but if you will cross the meadow with me, where we can sit in the shade of those big maples, I will tell you some interesting things about them."

So we crossed over to the big trees and all sat down, impatient to hear what Pal had to tell us.

"In the first place," Pal began, "snakes are our friends, not our enemies. For instance, take the snake that you have just tried to kill, Tommy. That was a Milk Snake; and were it not for the Milk Snake, the Garter Snake, the Green Snake and various others, the farmer who owns that field we have just crossed would probably have had no grass crop."

"No grass crop!" exclaimed Tommy. "What have snakes got to do with grass crops?"

"Just this, my boy. Everything in nature has its particular enemy. For example, the little field mice feed on the tender roots and shoots of the farmer's crops. Snakes are enemies of the mice and feed upon them. If a snake should see a little mouse making for its hole, which runs just beneath the roots of the grass, it would make a spring for it, and swallow it. So, you see, the snakes, by killing off the mice, keep the number smaller, so they cannot eat up the whole crop."

"Yes, but Pal," I said, "people are much nicer than mice, and if no snakes are killed they might kill the people."

"No, Pyxie, if people leave the snakes alone, the snakes will leave the people alone. A snake will never show fight unless it thinks it is going to be attacked and cannot get away. Then it coils itself, as doubtless some of you know; for a snake can never

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strike—that is, dart out its head far enough to bite—unless it is coiled.”

“Well, I’ve seen snakes lying out straight, wagging their red fangs,” said Tommy.

“Yes, and I know a little girl who said she was chased all the way home by a big black snake once,” said I.

Pal laughed, and shook his head. “I am afraid you are both wrong,” he said. “What you thought were fangs, Tommy, was the tongue, which is forked so that the snake can catch insects. That is another way in which they prove to be our friends, for many insects are injurious to the crops. And as for the black snake chasing the little girl home, Pyxie, she must have imagined that; for snakes are timid creatures, and no snake would ever run after anyone. But some few snakes do have fangs, children. Do you know what fangs are?”

We shook our heads, for we had all thought that the forked tongue was the fangs.

“Well, fangs,” he said, “are really teeth, with a hole straight through the middle of them that connects with a poison bag just back of the eyes. Some kinds of snakes have two of these teeth, or fangs, one on each side of their jaws. Then when a poison snake bites the poison comes out of these little bags, through the holes in its teeth, and poisons whatever it has bitten.”

“And hasn’t that Milk Snake that we saw any poison teeth?” I asked.

"No, the Milk Snake and the other snakes you would be apt to see in the fields and meadows, or among the dead leaves in the woods, are perfectly harmless. There are only four kinds of snakes in this country that are poisonous."

"What are their names?" asked Tommy. "Gee! I'd like to see a bunch of them fighting and biting each other."

"If you saw a bunch, Pal, what would you do?" I asked.

"I'd get away as quickly as I could; and if you should see a snake and not be sure whether it was a harmless one or not, I would advise you to go away from it too; for as I have said, if you will leave them alone they will leave you alone."

"But are there any poisonous ones around here?" asked Willie.

"There may possibly be two poisonous kinds, but I have never seen any here, for they are very rare. They are, Tommy, the Copperhead and the Rattlesnake, and they are not found in meadows, but on rocky ledges where the soil is dry. The Rattlesnake has a jointed horny end to his tail," Pal continued, "which he rattles as a warning to you not to come too near. So you can always tell him by that. And the Copperhead you may know by his very pointed nose, wide jaws and the copper color of the scales upon his head."

"But you said there were four kinds of poisonous

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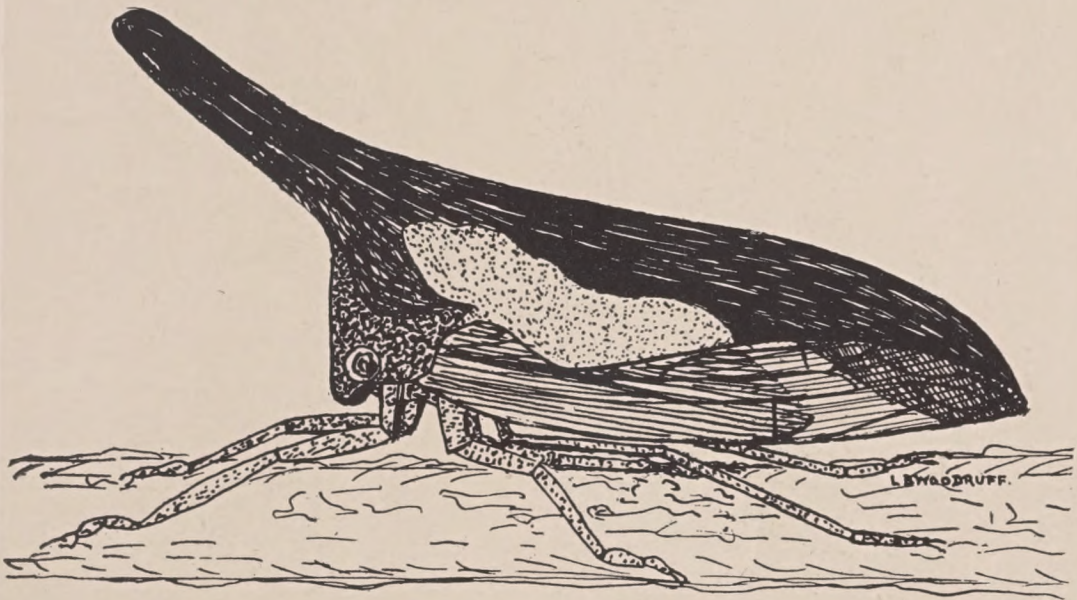
snakes, Pal. What are the other two, and where do they live?" I asked.

"The other two are the Water Moccasin, which is found in the South, and the very rare Coral Snake, which lives 'way down in Florida; but, except for these, all other snakes are harmless and our friends; and even the poisonous ones won't hurt us if we do not interfere with them.


"Here is a little rhyme which may help you to remember what I have told you:

*"I rattle my rattles," the Rattlesnake said,
"To warn you I'm here in my rattlesnake bed.
"So do not get rattled, and corner me here,
"For in that case I'd strike and would bite you, my
 dear."*

*The Copperhead hissed, and said, "If this is true,
"We are somewhat alike, for that's just what I'd do."
The harmless ones said, "Why aren't you ashamed!
"It's because of your tempers that we have been
 blamed."*



A TREE-HOPPER



Fairy Thorns



ONE bright day my Pal said to me, "Come, Pyxie, let's go out to the woods, and see what the little wood-folks are doing this afternoon."

Of course I wanted to go, so I ran and told Mother where we were going, and in a very little while we were on the edge of a deep, green wood, our eyes and ears all ready to notice whatever might be going on about us.

Pretty soon we came to a little tree with lots of small, light green leaves in rows along the stems. "Oh, what kind of a tree is that?" I asked. "Just see how the branches are all covered with sharp thorns!"

"That is a baby Locust-tree, and some of these thorns are most interesting, if you will look at them closely."

So I looked at them, and they all looked just alike, and I said: "Oh, pshaw! I don't see anything in-

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teresting about these thorns! Let's go and look for some of the wood-folks."

But my Pal took hold of a branch and drew it down towards me, and what do you think happened! About half of the thorns, one after the other, began hopping off, and flying into a taller tree near by.

"Why, Pal, what in the world are they? Are they fairies?"

"Well," he said, "I think we can call them Thorn Fairies, for that would be a very pretty name for these clever little folks. But they are really insects named Tree-hoppers, and they are shaped like the Locust-tree thorns to protect them from their enemies."

"Enemies? I didn't know insects had enemies. What are they?"

"Chiefly the birds, for birds feed on insects; and if they should discover that those were insects, and not thorns, they would fly right down onto the Locust-tree and gobble them up."

"Oh, please catch one and show it to me with your magnifying glass. Why, it's the funniest thing I ever saw! It's all covered up with a hard shell!"

"Yes, Pyxie, that covering is its armor, which grows in the shape of a thorn."

"Oh, let me look again! Why, there is its face peeping out, and there are two funny little round eyes. Look at it, Pal!"

"Yes, I know; they are old friends of mine. Do

you see its six little feet sticking out beneath, three on this side and three on that?"

"Oh, yes; aren't they cute? Who would ever guess a thorn had feet. But where are its wings?"

"There, Pyxie, just showing from under the sides of its armor. Now look here at the foot of the tree—do you know what that little pile of chipped grass and dead leaves is?"

"Oh, of course; that's just an ants' nest. But I want to hear more about the Tree-hoppers."

"Very well, you will in a minute. But now I want you to watch these ants that have just left their nest, and are crawling up the tree-trunk. See, there! They have reached the lowest branch, and are going out to where that first little Tree-hopper is, for *they* can always tell whether it is a real, or a fairy, thorn."

"Oh, are they going to hurt it?"

"No, indeed, they are only going to milk it."

"Milk it! Oh, you're fooling!"

"You just wait—see now, they have reached the Tree-hopper, and one of them is softly stroking her back with his long feelers. Now watch closely. See at the end of the Tree-hopper's body that clear little bubble growing bigger?"

"Yes, yes," I said. "There! The ant is drinking it, I do believe!"

"Yes, I told you he was going to milk her. It tastes as good to him as your nice, fresh cow's milk does to you every morning for your breakfast."

"Well, isn't that ant smart! Oh, look, Pal! That

biggest ant has the Tree-hopper by the leg, and now he has dragged her to the trunk of the tree,—and has started down. What is he going to do with her?"

"Watch and see, Pyxie. There! See, he has her in such a position that she is a helpless captive, and he is taking her down into his nest."

"Why he is, sure enough. But I don't see how he can, Pal. She's twice as big as he is."

"Yes, but he is twice as strong as she is; and besides, she doesn't seem to be trying to escape."

"Perhaps she is too frightened; but anyway, what makes him want her in his nest? She is much bigger than he is; she would take up as much room in his nest as a cow would in our house. And just imagine a cow running around inside our house!"

We both laughed at that, but very soon Pal stopped laughing and said: "Well, little Pyxie, you have finished my story yourself without realizing it, for she is a cow—an ant's cow!"

"Gracious alive!" I exclaimed. "That's the very queerest thing I ever heard of—ants having cows! And do they really and truly milk her?"

"Yes, as you saw her being milked a few moments ago, and she doesn't mind being milked by an ant at all, but rather seems to like it."

"Well, I bet you when I tell Tommy and Willie about them they won't believe me. Now what else do they do?"

"When her captor has dragged her down into the nest the other ants build a separate chamber for her,

and for such other captive Tree-hoppers as they may have, and she is tended and fed, and stroked every day with the feelers of the 'milk-boy ant,' so as to induce her to give them her milk."

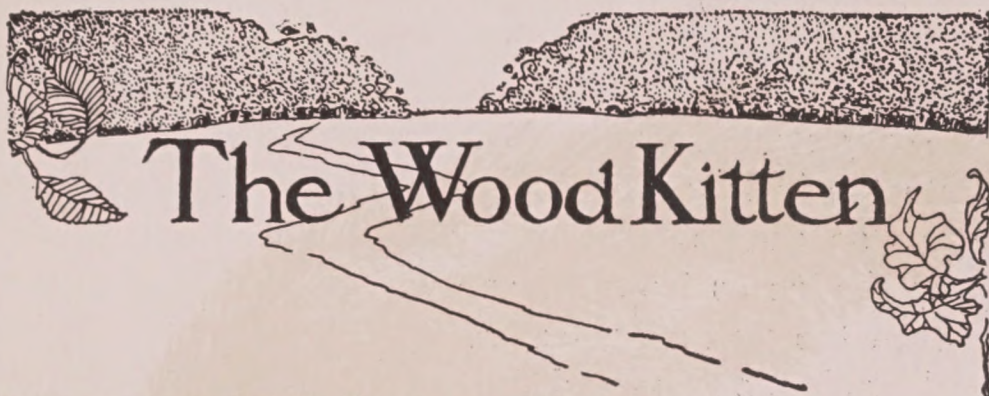
"And you say she doesn't mind being a captive?" I asked.

"No, indeed. She is so well cared for by the ants that she likes it, and never tries to run away, but is content with her lot of giving nice, fresh milk to her ant family."

*The Tree-hopper lives on the Locust-tree;
She is shaped like a thorn, and thus you see
She is well protected from the birds,
And lives along the stems in herds,
But that she's a cow the ant well knows,
So up the Locust-tree he goes
And takes her captive to his nest,
Where she gives milk when well caressed.*



THE WOOD KITTEN



The Wood Kitten



KNOCKED at Pal's door.
"Hello, Pal! are we going for
our walk before breakfast this
morning, as you promised?"

Pal opened the door, and
stood, all dressed, smiling at
me as he said, "Well, you are
an early little bird! But I am
ready for you, you see." So we

tip-toed from the house, and walked towards the woods. The dew was fresh and sparkling on the grass and flowers, the birds were singing as if there was more song in their little bodies than they could possibly hold, and the air was deliciously fresh and sweet. It is awfully nice to live so near the cool green woods, for it makes me feel as though I had so many friends always near. The little wood-folks sing me to sleep every night with their good-night songs, and help the sun to wake me every morning. You know the reason my Pal calls me Pyxie is because I love the wood-folks so; for a Pyxie is a little

woodland fairy who dances about in the woods, flitting in and out among the trees just as the sunshine does.

Very soon we came to a grassy path that led us into the heart of the woods. The branches of the trees on each side of the path met over our heads, and shaded us from the sun which peeped at us between the quivering leaves.

"Don't the moss and the grass look lovely, Pyxie, all spotted with the sunshine?"

"Oh! look, Pal, at that darling little black and white kitten," I interrupted, "right down there in the path!" And I started towards it, but Pal caught my arm and said: "You had better watch that kitten from a distance." I didn't know why he stopped me, but we stood still, watching the kitten frolicking in the path, playing with a piece of stick and waving her fluffy tail over her back.

"Isn't she cute! Let's go and catch her and take her home. What do you suppose she is doing, 'way out here in the woods?"

Just then Joker, my little fox-terrier, who had followed us and was ranging about, dashed forward, barking with joy. He does love to chase cats, and now he thought he saw a splendid opportunity to have some fun; so on he flew, right up to the kitten.

No sooner had he reached her, however, than he began a retreat towards us, yelping and howling with pain and all the time trying to rub his head

upon the ground, while the little kitten scuttled away deeper into the woods.

"Why, what in the world is the matter with Joker?" I cried. But just then the most terrible odor reached us, and Pal, grabbing my hand, began running as hard as he could, dragging me after him, while Joker made for a nearby brook and plunged in.

"Gracious!" I cried, after Pal had stopped and we stood upon a little knoll quite a distance away, where the odor did not reach us. "That was awful! It smelled as bad as a Skunk!"

"A Skunk! Well, I guess it did, Pyxie," he laughed; "for it *was* a Skunk."

"That pretty little kitten a Skunk?" I exclaimed. "I didn't know Skunks looked like that!"

"They do look like kittens," Pal said, "and in fact, they are sometimes called Wood-kittens, and also Pole-cats."

"But why didn't we smell it before?"

"Well," Pal said, "I guess this means a story as usual; eh, my little Pyxie?"

I nodded and let go of my nose, which I had been holding all this time, and Pal started right in to tell me about them.

"To begin with, Skunks are nice little Wood-kittens if left alone, and do not always smell badly, but, like other wild creatures, have their own peculiar way of defending themselves."

"Defending themselves? Do all the wood-folks dislike their odor as much as we do?"

"Perhaps not," he said, "though I think it is probable that most of them do. This odor, as you call it, is a liquid which is held in a sac in its body, and when an enemy comes too near, or attacks it, it squirts this liquid into the enemy's eyes, thus blinding him for the time being; for it smarts and burns dreadfully, and makes his eyes very sore."

"Then that's the reason Joker howled so. I thought it was just because he hated the smell—poor old Joker!"

So I began calling, "Here, Joker! Here, Joker!" and very soon Joker came into sight, his tail between his legs and looking the very picture of shame.

"I do believe he's ashamed because he thinks he was beaten by a cat," I cried to Pal. "Poor old fellow, come here!" But as he came doubtfully nearer I suddenly understood his shame, for he smelled awfully.

"Oh, oh!" I almost sobbed, "is my poor Joker always going to smell like a Skunk?"

Joker approached still nearer, for he wanted sympathy; but I grabbed hold of my nose again and said: "Get away, get away, Joker!" and began backing off too, for the smell was terrible.

He slunk away and plunged into the brook once more, after which he crawled off into the woods, still rubbing his eyes, and lay down mournfully, as though he knew he was unfit for company.

Pal laughed and said, "Don't worry, Pyxie; he is a pretty miserable dog now, and I guess after this he will leave cats alone; but he will soon lose that odor."

I felt better when he told me that, and said, "Then tell me some more about the Pole-cats, please, Pal."

"Well," he replied, "as you and also Joker have learned, it is not generally an offensively smelling creature, but cleverly uses the liquid from its sac when defending itself from an enemy. You remember, don't you, when we first saw it—before Joker's attack—that it had no odor, and you thought it just an ordinary little kitten?"

"Yes, that's so; but tell me, do they always live in the woods, Pal?"

"Yes, either in or near the woods. When a couple of them begin housekeeping they burrow into the ground, just as a rabbit or a woodchuck does. Their burrow is generally among the roots of a tree, where they dig a round chamber for themselves and line it with leaves and moss to keep it warm. There they stay during the winter, sleeping most of the time."

"Then they build a regular nest, don't they? But of course they don't lay eggs," I laughingly remarked.

"No, they do not lay eggs, for they are mammals—that is, animals that nurse their babies—and mammals never lay eggs; though, as you say, their homes are nests, and are very snug and warm ones, too. There every spring they have a litter of little kittens,

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four or five of them, just as your tabby-cat does at home."

"For goodness sake! What can they find to eat, 'way under there?"

"At first the mother feeds them from her breast, as a cat does her kittens. Then as they grow older they all go forth at night to prowl for food."

"Why do they go at night? I should think they would be in bed asleep at night."

"No, Skunks sleep a good deal during the day, and that is one reason why we run across them so seldom. Therefore, you see, Pyxie, if you had not gotten up this morning when the little wood-folks first called you, you would not have been so likely to have seen one."

I laughed and said, "Well, I guess Joker is awfully sorry he got up so early this morning! But, tell me, what do they find to eat when they go prowling at night?"

"All sorts of things," Pal said, "for the woods is a wonderful place in which to dine on berries and buds and sweet roots. They are blood-thirsty little creatures, too, and will eat almost any small animal or bird they can find. In the spring they slink about hunting for the nests of birds that build upon the ground, and will suck all their eggs. They are not friends of the farmers who keep chickens, either, as so many of the wood-folks are; for they will sneak into the chicken yard and kill the chickens and suck their eggs."

"Well, I think they are perfectly horrid, and I don't see that they do any good at all, Pal," I said; "and you told me that every creature was in some way our friend."

"And so they are, Pyxie, for even Skunks, which you think are so horrid, are a great help to the farmer who is trying to raise good crops, for they destroy great numbers of mice and insects that otherwise would injure his grain; and besides, they furnish one of the softest furs that we use in winter to help keep us warm."

*The Skunk is striped with black and white;
He lives within the wood;
And if you do not fool with him,
You'll smell just as you should.*



L.B. WOODRUFF.

THE MONARCH



The Monarch



WILLIE! WILLIE!" I called across the fence that divided our yards. "Come over here. I've got something awfully interesting to show you."

Willie stuck his head out of the window and said, "All right, I'll be there in a minute.

Tommy is here—can he come, too?"

"Yes," I said, "but hurry."

Willie ran down his steps and jumped the fence, but Tommy put his hands in his pockets and, whistling, sauntered out through the gate and walked around to our house while we waited for him.

"Why don't you hurry, Tommy?" said Willie. "You see Pyxie is waiting for you."

"Oh, shucks!" said Tommy; "there won't be nothing to see when I get there."

"Well, you just come in the house and I'll show you," I said, and I led them into Pal's study, where he was standing with a box in his hand.

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"Here they are, Pal! Now please tell them all about the caterpillar, just as you were telling me a moment ago."

We gathered about him, and he held the box down so we could look into it through its glass top.

"Now, children, you see this yellow and black and white caterpillar, with the colored rings running around its body, that is hanging head downward from the top of this box. This is the caterpillar that turns into the beautiful Monarch butterfly which I showed you the other day over in the field. It hangs there slowly revolving and making its chrysalis, or little house, in which it will go to sleep for about two weeks."

"It will be a regular insect 'Sleeping Beauty!' " I laughed.

Pal laughed too and said, "But there will be no Prince to awaken her. Never mind, she will awaken at the right moment herself, and come out of her house, for she still has her chief duty in life to perform. But at the present there is no use of my telling you any more, for, like people, she builds her house rather slowly. However, if you will come back in a few hours, you will see her home finished and hanging from the top of the box, just where the caterpillar hangs now."

"That's bully!" Willie said. "I wonder what it will look like? I'm crazy to see it."

"Humph!" said Tommy; "I don't see how an ugly old caterpillar like that can make a house."

"But she can, though," I said. "I don't think she's ugly anyway. I think she's pretty. You just come back this afternoon and you'll see her house, won't they, Pal?"

"You'll see what you'll see," again laughed Pal.

I stood watching the caterpillar for a long time. It was continually jerking its head back and forth. At last I grew tired of watching it, for I couldn't see that it was building anything, so I ran away to play, forgetting for the time all about it.

Early in the afternoon Pal told me to call the boys again, so I hollered for them, and in a minute they came running over. Pal met us at the door, holding the box so we could see into it, and said: "There, Tommy! What have you to say to that?"

And what do you think we saw! There, where the caterpillar had hung, was swinging a beautiful pea-green chrysalis, about the size and somewhat the shape of a thimble, studded with rows of gold-headed knobs across the front and sides.

Tommy stared, and then gave a whistle.

"Oh, how beautiful!" I cried. "And is that really the house of the caterpillar we saw only a little while ago?"

"Yes," Pal said, "and as I have told you, she will sleep there for about two weeks. When the time draws near for her to come out I'll let you watch with me again."

"But how will you know when the time comes, Pal?"

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"Because," said he, "when the house begins to turn a purplish color, and its walls show small cracks, then I know she has changed into a butterfly and is waking up."

"Gee!" Tommy said; "anybody could forget all about her in two weeks—that's an awful long time!"

"Yes," Willie agreed, "but it's worth waiting for, I think. Don't you, Pyxie?"

"Most everything beautiful in this world is worth waiting for," said my Pal.

I didn't forget about it, though, for every day I would go and peek at the little green house; and sure enough one day I saw it was beginning to turn purple, and that there were little cracks in its walls.

"Pal!" I called. "Come quick! I do believe the little green house is going to open, right now!"

"Yes, Pyxie, you stand and watch it, and I will call the boys."

I did so, watching the cracks grow larger and larger, until by the time Pal and the two boys had come in we could plainly see a large red and black object coming out of the upper part of the house. She crawled to the side of the box, and there began unfolding and drying out her large painted wings, which we soon saw were red with black veins and orange yellow spots.

"Gee!" said Willie. "She's pretty!"

And Tommy thought so too, I am sure, for he said, "Well, she did better than I thought she could."

She ain't so wonderful, though; I've seen dozens of 'em just like her."

"Of course you have," said Pal, "for she is one of our commonest butterflies. You can see dozens of them any sunny day you want to, in the fields, and also in your mother's flower-garden, sucking the honey from the flowers; for that is what they live upon. They are wonderful, however, in their habits; for, unlike any other butterflies, they can fly over a thousand miles."

"For goodness sake!" I said; "how can such delicate frail little creatures fly as far as that?"

"They have very strong wings, Pyxie dear, stronger than those of any butterfly I know of, and in fact in some ways they are very much like birds. For in the fall they gather together in enormous flocks, thousands and thousands of them, and fly South to spend the winter there."

"What makes them do that?" Willie asked.

"That is their vacation time. You know how nice it is to go away on a vacation, don't you, after you have been busy at school?"

"You bet!" he answered.

"Well," continued Pal, "before they go they are busy laying eggs on Milkweed plants. They lay them there because that is the food-plant of the baby caterpillars, and when the eggs hatch out the little caterpillars will find plenty of food without having to hunt for it. Soon they become big caterpillars and set about finding a place to build their little

houses, just like this little house you saw here in the box."

"I don't see how any butterfly can fly a thousand miles without stopping," said Tommy, skeptically.

"They don't fly that far without stopping. They fly only in the daytime, alighting each night for rest, usually upon some tree. I have seen a tree at dusk so completely covered by them that no green leaves could be seen at all!"

"Mercy me! I didn't know there were so many butterflies in the world!" I said. "Did you, Willie?"

"No, I don't think I did," Willie admitted.

"I did," said Tommy; "I saw millions and millions of them in a museum once."

None of us heeded Tommy's boast though, and I asked, "How far south do they fly, Pal?"

"Down as far as Florida," he said. "They have even been known to fly several hundred miles out to sea and alight upon a ship."

"Why would they do that? That's awful silly!" Tommy said. "There ain't nothing to eat on the ocean."

"Maybe those butterflies had gotten lost," Pal answered. "But most of them reach the South all right."

"What do they do while they're South?" asked Willie.

"Why, as I have told you, it's their vacation time, and they have a nice, long rest, and find lots of flowers to feed on; but at the first signs of spring they

become restless, and finally, in small groups or singly, they start flying back toward their summer home in the North."

"Gracious! Isn't that wonderful! It doesn't seem possible that such frail creatures could make such a long journey twice! But tell me, do they lay more eggs down South before they start back?" I asked.

"Probably not; but during their flight toward the North they stop along the way when they see some convenient milkweed, and lay some eggs there. Thus, you see, unlike other kinds of butterflies, they have two families in a year, hatched in different places."

Then taking the lid from the box, Pal said: "Now watch me. See, her wings are dry, and I am going to let her fly out of this window. There!"

The beautiful butterfly flew only to the window ledge, where she stopped, as though she didn't want to leave us.

"Why, look, Pal! She doesn't want to go!" I cried, excitedly.

"Oh, yes she does, Pyxie dear, for no creature would want to be a prisoner this lovely August day. She is trying her wings a little before venturing too far; that is all. Now see! She has flown to the trunk of that tree."

And there we watched her, quivering in the sunshine, for a few minutes more. Then high above her we saw another Monarch skimming through the air.

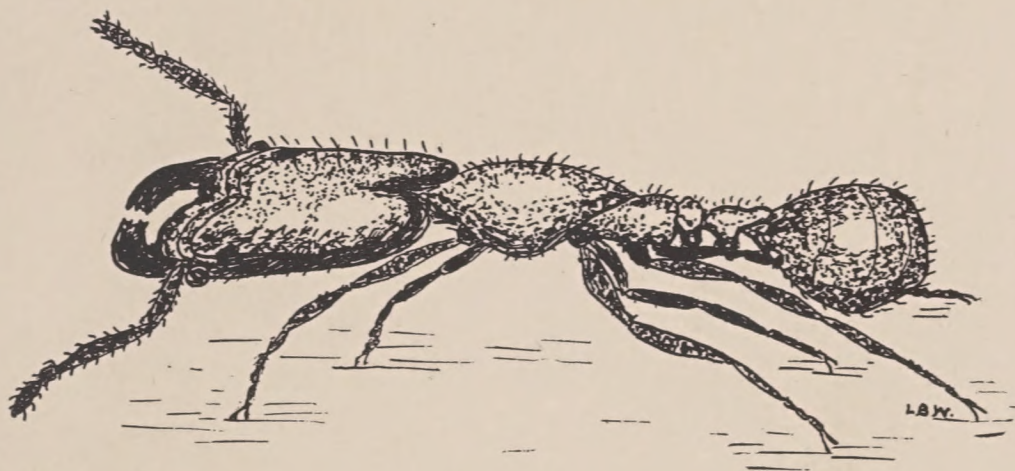
He must have seen her there, too, for down he fluttered to her side.

"Oh, look! look!" Willie said. "There's another one just like her."

"Yes," my Pal said, "that is her sweetheart who has come a-wooing. See, he is telling her the secret of his love."

And now, her wings having grown stronger, they sailed away on their honeymoon, to be spent amongst the milkweed and the flowers.

*The Monarch of the Butterflies
Wears robes of black and red,
And on its wings are golden spots;
It loves the Milkweed bed.
Its wings are strong, and it can fly
A thousand miles away;
But you can see it in the fields
On any summer day.*



A SOLDIER ANT



The Village Kingdom



WISH I could see a kingdom," I said one day to my Pal. "Tommy's been abroad, and has seen all kinds of kingdoms, haven't you, Tommy?"

"You bet your life," said Tommy, boastfully. "I saw the Queen of England out riding once, and there were soldiers to guard her, and——"

"Well, children," said Pal, "if you will cross the road here into the woods I will show you several kingdoms."

"Really truly kingdoms?" we both exclaimed.

"Yes, just as really truly kingdoms as can be found in any country, each with a queen, and soldiers, and workers, and everything. Would you like me to show them to you?"

"Yes, Pal, please do!" I cried excitedly, dancing toward the gate, while Tommy and Pal came along behind. We crossed the road and were soon on a

gentle slope of woodland in the shade of the tall oaks. Pal went up to a little pile of grass chips and bark and said, "There, children—there's one of your kingdoms!"

While we were still looking at that, quite puzzled, Pal walked over to a flat stone a few feet away, saying as he turned it over, "and here is another."

"Humph! They're nothin' but ants," said Tommy. "Kingdoms have kings and queens! I've seen a real queen."

"And so you shall again," said Pal, "for a queen rules each of these kingdoms."

"Oh, do tell us all about it, Pal. Wouldn't you like to hear it, Tommy?" Tommy nodded, and Pal began:

"First of all, ants build their nests like little villages, with many rooms, which take the place of houses, each room being built for some particular use. These are connected by passageways or little streets. For instance, the queen has her particular chamber where she spends almost all of her time laying eggs. She has guards about her, who wash her, and feed her, and stroke her, and are always with her, to see that no harm befalls her. As she lays her eggs, certain ones of the guard take charge of them, and carry them into another room, specially prepared for them, keeping them clean and warm until they hatch out into little baby ants, which are a kind of grub.

"Then others of the guard take these grubs into

still another chamber, where they feed and tend them until each grub has spun its little cocoon. These little cocoons serve as cradles for the baby ants, and in them they go fast asleep for several days.

"After they have had a nice, long, cozy rest, they hatch out into the regular ants, just like the ones who have been tending them; and they, too, have to join the ranks of the workers."

"Well, for goodness sake!" I said. "They are the smartest wood-folks you have told us about." And Tommy must have thought so too, for he had stopped throwing stones and was listening with all his might.

"I have not told you all yet, Pyxie dear; for there is still another crowd of workers whose duty it is to keep the nests clean, picking up and throwing out the discarded cocoons, or any other rubbish that can be found; for an ants' colony is a perfect 'Spotless Town.'

"Then, too, I told you, if you remember, each village has its army, which, of course, stays near the entrance and keeps guard over it. This army is made up of the soldier ants, which have very large heads and are armed with strong jaws that have cutting edges."

"And can they fight?" asked Tommy.

"Fight!" said my Pal. "You just ought to see them. Perhaps they may have a war while we are here."

"Gee-whizz!" said Tommy; "that would be bully!"

Pal smiled and went on telling us about the ants.

"Now these under the stone are known as Harvester ants—that is, they go forth and gather kernels of wheat and other grains, as well as seeds of grasses, which they store away in storage chambers in their nests, thus having food always at hand, winter and summer."

Then stepping back to the little mound of grass chips and bark that he had first shown us, he continued: "The ants whose kingdom this is are called Slave-making ants. These ants have a particularly strong force of soldiers, and when they want more slaves their soldiers march forth in columns, attacking other ants of different species which they capture and bring back to their nests. These captives are made to do the tasks which otherwise they themselves would have to do."

"I like the Slave-making ants best," said Tommy, making a face at me.

"I don't—I like the Harvesting ants much better. Are there any more kinds of ants, Pal?"

"Oh, yes," he said, "so many you couldn't remember all of them if I told you. Some, for instance, are cattle-men and keep plant-lice in herds under sheds which they build for them on the stems of trees."

"Build sheds! Why, Pal, how could they build sheds? You must be telling a fairy story now."

"No, Pyxie, I don't tell you fairy stories, you

know; for the true stories about what the little wood-folks do are much more wonderful than anything a make-believe fairy could do."

"Well, tell us how they can build sheds, then," Tommy said.

"I will, Tommy. First they gather little bits of wood chips, and these they chew and chew until they have become a mass of pulp. With this pulp they build the little sheds on the tree stems which I just told you about so as to protect their plant-lice cattle from the storms."

"I wouldn't mind seeing one of those sheds," said Tommy.

"I will show you one that I found the other day," Pal promised, "when we get back home."

"But what do they keep the cattle for?" I asked.

"For the milk they give," replied Pal. "And other ants keep tree-hoppers in their nests as cattle for the same reason, as I was telling you the other day. Still others keep beetles in their nests to help clean up for them. There is still another kind that have little gardens down under the ground, where they grow tiny fungus plants upon which they feed. These little gardens are kept weeded and tended with the greatest care by a few workers who are gardeners."

"Oh! look at the ants coming out of the mound-nest!" cried Tommy.

"And columns of them are coming from underneath the stone!" I exclaimed.

"Children, you are lucky. We are going to see a war, after all," said Pal; "for although we have heard or seen no signal, there must have been one sent. See, they are marshalling their forces, and are going to fight it out upon this little battle-field at our feet. There! see, the columns have met, and the Slave-makers are clashing their antennae against those of the Harvesters, as men clash swords in their battles. Now watch them use their strong jaws, biting at each other fiercely!"

"Hooray!" Tommy yelled, "the Slave-making ants are beating!"

Pal and I stood by without saying anything, watching the war that raged so fiercely within a few feet of us. I didn't like it very much, for presently, strewn all about the battle-field were the dead and dying soldiers of the Harvesters.

"Yes," Pal said, "the Slave-makers are generally the victors, I believe, Tommy. Now watch them carry their 'spoils of war' to their nests. Look at these here! They have a Harvester captive. They will make a slave of him, and many others like him."

"Is the Harvesters' village all broken up?" I asked.

"Yes, they are probably all killed off or captured, except their queen."

"Golly!" Tommy cried, "what a big ant this is crawling up out of the Harvesters' nest!"

"That is their queen, Tommy," Pal said. "Her forces have lost, and I think she is trying to escape from her enemies. Should she do so, and find a

village of smaller ants, she will fight her way into their nest, kill their queen, and take possession herself."

"That is the bulliest thing you have showed us," said Tommy grinning, and poking about among the dead ants.

"I really believe ants are just as smart as people; don't you, Tommy?" I asked.

"They're bully fighters, all right!" he admitted.

*Ants have village kingdoms,
Ruled over by a Queen.
They wash, and brush, and tend her,
And keep their village clean.
And some of them are soldiers,
Whose weapons are strong jaws;
While others gather food; and all
Are governed by strict laws.*



L.B. HODGKINS

THE BAT



The Bat



AT DUSK one evening, just after we had finished dinner, Pal and I went out into our grove, hoping that we might discover a stray breeze there; for it had been very warm all day.

"Oh, goodness!" I said, "I wish I were a duck, or a fish, or something instead of a girl."

"Why do you wish that, Pyxie?" Pal asked, smiling.

"Then I could be swimming around in the water, and cooling off," I explained. "I'll bet Willie and Tommy have been down in Jones's swimming pool 'most all day. It's awful warm to be a girl, anyhow."

"Well, well, Pyxie, we'll soon cool off here. Don't you feel that nice little breeze that's springing up, making the leaves all clap their hands for joy?"

And sure enough I very soon began to feel all nice and cool, just as though every little fairy in the grove

was fanning me with her wings as hard as ever she could.

"Why, look at those birds flying around! I supposed the birds had all gone to roost by this time of day," I said.

Pal looked up and saw two dark objects skimming and circling about over our heads.

"They are bats, Pyxie; not birds."

"But isn't a bat a kind of bird?" I asked.

"No," Pal laughed. "It is more like a mouse."

"A mouse!" I exclaimed. "Well, I certainly didn't know that. But how can a mouse have feathers?"

"It has no feathers," he said.

"No feathers! But it flies. How can it fly if it has no feathers for its wings?"

"Well, that is a long story, and I would like you to see one closely before I try to explain to you about them."

"There! Look! Did you see that? One just went in at the sitting-room window!" I cried. And then we heard my mother give a terrible squeal and run out of the room, slamming the door.

"Oh, do you suppose it has hurt her? Please come with me and see, Pal," I almost sobbed, running toward the side door, Pal following. There I bumped into Mother, who with a towel over her head and a broom in her hand was starting out to call for Pal to help her drive out the bat.

When he saw her with her head all tied up, she

looked so funny he stopped and leaned against the porch railing and laughed and laughed.

"What are you laughing at?" she asked. "There's nothing particularly funny about having a bat in the house, is there? Why, it has been trying to get in my hair!" She looked horrified, and I began to feel scared too, and to wonder whether I hadn't better tie up my curls; and all this time we could hear the bat banging itself against the sitting-room walls in a perfect fury.

Pal stopped laughing and started toward the sitting-room door. "You are putting foolish notions into Pyxie's head," he said, "for no bat will ever try to get into anyone's hair. The poor little creature is terrified and blinded by the light, that's all, and is trying to escape. Come, Pyxie," he said, opening the door of the room. "It won't hurt you, and I believe you would like to look at one while I tell you about it."

So we went in and closed the door, leaving Mother in the hall murmuring something or other about how different children were when she was young.

"Slap, slap!" went the bat as she flew blindly about the room.

"Here," said Pal, picking up his butterfly net, "we'll soon catch her." And he started after her, swooping his net, until presently he caught her in its bag, where she struggled and fought desperately.

"Now, Pyxie, if you will get me that bottle of chloroform and that bit of cotton right there in the

closet, we will soon put the poor, frightened creature to sleep."

"Oh, are you going to kill it?" I asked.

"Yes, dear, for I want to show you just what a bat is like, and besides I need it to put into one of my glass cases in the museum."

So holding the bat, which was still in the net, closely in his hand, he told me how to wet the cotton with the chloroform, and then he held it in front of the bat's little nose. Very soon she stopped trying to escape, and lay very still. Then he took her from the net and said: "See how much she looks like a little mouse!" And she really did, for her body was all covered with soft gray fur, and she had a mouth with rows of little sharp, white teeth, and her furry ears, quite large for the size of her face, stood straight up on either side of her head, as though she were listening all the time.

"Well, I declare!" I exclaimed. "And do all bats look like that?"

"Yes, bats are all this shape, but there are several different kinds, some larger and some smaller than this one, and some have brown fur, while others are black and still others are reddish."

"Now show me her wings; for I certainly never saw wings that didn't have feathers, and I can see that she has no feathers, as you said."

"Well, what do you call these things?" Pal asked, pointing to her sides, where there seemed to be folds and folds of leathery skin.

"They don't look like wings," I said.

Then Pal took hold of one of the folds and stretched them all out, and I fairly screamed. "Oh, they *are* wings and look just like pictures of the Devil's wings, don't they?"

"Yes, so they do," laughed Pal; "but the bat finds them very good wings. And now look closer and see how they are formed. Can't you see they are really her arms and hands?"

"Her arms and hands!" I exclaimed. "Oh, Pal, you must be fooling me, for they are three times as long as her whole body."

"Nevertheless they are her arms and hands. That heaviest bone there at the top is her arm, and these four, slender, jointed bones coming from the end of the arm bone are her fingers. Then here, at the top of the outspread fingers, is her thumb, which you see is very short, and has a sharp, curved claw in the end of it. This claw she uses to cling with, for it is very strong."

"Yes, and all her fingers are joined together with that thick skin. It looks like a duck's foot."

"You have described it very well, Pyxie; for a duck's foot is webbed to help it swim easily, and this little creature's fingers and arms are webbed so that she can use them to fly with. And see, she has a little tail like a mouse, too. That also has a web of skin on either side of it, reaching to the little hind legs all the way down to the feet. That she spreads

when flying to help steer herself and turn quickly in the air, just as a bird uses its feathered tail."

"What a funny creature!" I said. "Tell me some more about her."

"Well," he continued, "she is like a bird, in that besides being able to fly she feeds upon insects which she catches in the air. She never flies nor feeds during the day, however, for then she is hanging by her little feet, head downward, fast asleep, in some old barn where it is dark, or in some hollow tree, or little woodland cave. The daylight hurts her eyes, so she cannot see well in the bright light, and never comes out until dusk."

"Is that the reason people sometimes say 'you're as blind as a bat?' " I asked.

"Yes, for bats are easily blinded and terrified by a strong light; but in a dim light they can see very well."

"But it is often quite dark under the trees when they are flying about, so dark I don't see how they can help bumping into things and getting hurt."

"Well," Pal said, "if it were not for a special way they have of learning when they are flying too near something that would hurt them if they struck it, they would get hurt. Let's look closely at our little bat. Do you see anything about its face that you didn't notice before?"

"Why, yes," I said; "there are two funny little things standing up in front of its ears."

"Good, Pyxie; that is what I wanted you to dis-

cover. For it is believed that those little things let the bat know when he is getting too near to anything. It isn't very easy to understand just how they do it, but perhaps I can explain it this way: You see the wings in beating on the air start little air ripples, like those in the water when you throw a stone into the pond, and when these air ripples strike anything hard they are echoed back to the bat, and those little columns in front of its ears are set a-trembling, and so warning is given to the bat in time to make it turn and avoid the danger."

"Then she must have a wireless telegraph station on her head," I laughed, "for that's the way you explained about sending messages through the air."

"Exactly. You have expressed it very well indeed, Pyxie. For very much as the wireless receiver catches the electric ripples, our little bat receives its messages by catching the delicate air ripples.

"Well, I think that's very hard to understand, sure enough," I said, "but perhaps you can tell me some more about the bats that's easier—do they have little baby bats?"

"Yes," he said. "In the spring they find some nice, dark hollow tree or cave, inside of which they build a soft, warm nest, lining it with chicken feathers, or anything soft they can find. Very soon if you could peep into it, you would see three or four little baby bats, all cuddled up, looking more like tiny mice than anything else."

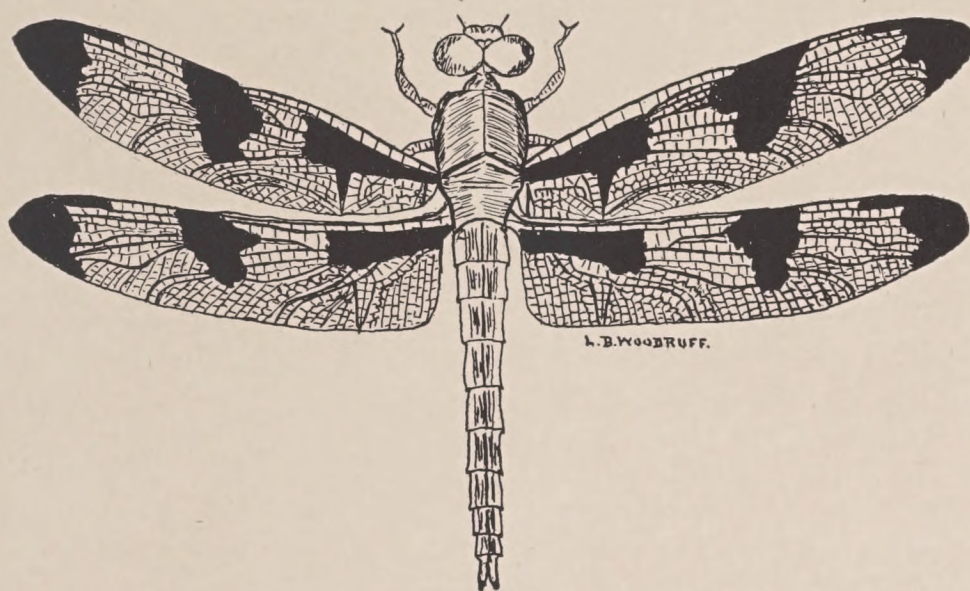
"And does the mother fly away, like mother birds

do, and bring back insects for the baby bats to eat?"

"No, indeed. She is not like a bird in that way, but feeds them from her breast, as a mouse does its babies, until they are old enough to fly at night-fall and catch insects for themselves."

"Well, let's go now and show it to Mother, for I don't believe she knows what a cunning little animal it is.

*A Bat is clothed with soft gray fur,
And looks quite like a mouse;
Sometimes it's blinded by a light,
And flies into the house.
Its two webbed hands are used as wings
With which to fly at night;
By day it hangs and sleeps, head down,
Which it considers right.*



THE DRAGON-FLY



The Dragon-Fly



AL," I said one morning as I ran into his study, "what's a Mosquito-hawk? Is it a bird?"

Pal laid down the board on which he was spreading a beautiful butterfly, and answered: "No, Pyxie, it's an insect. And I suppose that question means that you want to take a tramp with me, eh?"

I put my arms around his neck. "You know I always want to take tramps with you, Pal. You've made me love the little wood-folks so, and perhaps we might see a Mosquito-hawk!"

"Very well, you little minx, I suppose I'll have to do whatever you want to, as usual," he said, patting my cheek.

"But what do they look like, Pal, and how big are they?"

"We'll see one when we go out, and then you'll know better than if I tried to tell you. Just wait

till I get this butterfly spread, for if I should leave it its wings would stiffen, all drooped, and I couldn't put it in the little glass case."

I waited patiently until he was through spreading the butterfly; then we started off on our tramp after Mosquito-hawks.

As we passed Willie's house I yelled to him and Tommy, telling them what we were going to do. So of course they joined us, and we four tramped off down the road.

Very soon we came to a meadow, full of daisies and buttercups all looking like little fairies, swaying and dancing in the breeze. We crossed the meadow, the daisies bowing "good-morning" as we passed, and finally reached a little pond on the other side.

"Come, children," said Pal, as he stepped out upon its sandy beach, "I will show you a beautiful sight."

And there, over this pond, entirely surrounded by reeds save for the little beach on which we stood, were darting hither and thither the most beautiful insects I think I ever saw.

"Oh, how lovely!" I cried. "Why, they look just like aeroplanes!" And we watched them as they sailed back and forth, swooping and circling about near the surface of the water.

"Are they Mosquito-hawks?" I asked, remembering Pal had said we would see some.

"Yes," Pal said, "that is one of their names, and a very good one, too; for they eat up millions of mos-

quitoes that otherwise would fly across the meadow and try to eat us; and they catch them just as hawks catch their prey. Some mosquitoes, you know," he continued, "can make us sick with malaria if they bite us; and therefore the Mosquito-hawks in destroying them are our friends."

"Gee-whizz!" said Willie, "I wish I could turn into a Mosquito-hawk some night when mosquitoes are biting me!"

"Pooh!" said Tommy, "they don't look like nothin' but Snake-doctors."

"And so they are, Tommy," said Pal, "for that is another of their names. They are also called Devil's-darning-needles, and many more nicknames; but usually Dragon-flies. See that big one," he continued, "with the four bronze-colored wings that look like beautiful lace—see how she skims over the surface, dipping her tail every few seconds in the water."

"Yes, isn't that funny!" I said. "What is she doing that for?"

"She is laying her eggs."

"Laying her eggs!" Willie and I exclaimed.

Pal smiled, and said, "Yes, that is what she is doing."

"Humph!" said Tommy. "Old Silly! She might know eggs can't float, and besides, how is she going to set on them to hatch them out?"

Pal laughed. "Insect eggs do float and don't have to be set on anyway, Tommy. Look closely! Can't

you see the little things? See how they are gradually drifting toward these reeds."

We watched, and sure enough they were soon borne by the soft ripples of the pond into the nearby reeds. Just then, however, our attention was drawn to another large lacy-winged Dragon-fly. She darted after a smaller one, and catching it settled upon a cat-tail and began to eat it up.

"Oh, look!" cried Willie. "That big one is eating up a little one!"

"And there goes another big one, eating a little one!" I said. "Why, they're regular cannibals! The horrid things!"

"No, they're not cannibals, Pyxie," Pal hastened to say, "for they are not eating their own kind. The smaller ones, although they are shaped like the Dragon-flies, are really Damsel-flies, and belong to another family. The Dragon-flies are their enemies, as well as the enemies of the mosquitoes."

"But won't they hurt people?" Willie asked. "I knew a fellow once who said they would darn up your ears if you weren't careful!"

"No, Willie," Pal answered, laughing; "I've heard that, too, but it isn't so. It is just an old superstition, which arose, no doubt, from the fact that their bodies are shaped like big darning-needles. But come, let's go over to these reeds; for I want to show you what the Dragon-flies look like when they are first hatched, and I have no doubt we can easily find some right over here."

So we followed Pal, and he began looking closely at the reeds until he discovered a large brownish shell clinging to one of them, with a split down the middle of its back.

"Now," explained Pal, "those eggs, which you have just seen drift over here, will hatch out in a few hours into little nymphs, which are small, brown, wiggly insects. These are the babies of the dragon-fly, of course, and after they have hatched out from the eggs they scuttle down as quickly as they can to the bottom of the pond, where they crawl about, feeding upon other small insects that live in the water. They have big heads and great strong jaws, but no wings; and they eat so much that they soon grow to be as large as this shell here. When spring comes, for they have stayed in the mud all winter, each one begins to feel a restless longing to come out of the water, up into the warm, bright sunshine. So, how do you suppose he does it?"

"Swims up!" I cried.

"Wiggles up onto the sandy beach," Willie guessed.

"Both wrong!" laughed Pal. "How do *you* think he does it, Tommy?"

"Oh, the easiest way he can, I bet," said Tommy, "for he can't have no sense—a thing that lives in the mud!"

"You've guessed right—it is the easiest way, but it is rather a smart way after all, Tommy; much smarter than the things some little boys say and do,

for instance. He crawls to the shallow water," Pal resumed, "and begins working his way up through the mud until he comes to the reeds. One of these he catches hold of with his claws, and upon it he climbs to the surface; then on up, and up, until he stops where the sun-light pours down upon him, and his shell begins to dry, and split open right down his back."

"Here is one now, over here on this reed," Willie cried.

Pal pulled the reed toward him, and after looking at it a moment, said, "No, that is an empty shell. But this creature you see just above, that looks so wet and uninteresting, is the full-grown Dragon-fly that has just come out of it. Its wings are so soft, as yet, that it can go no farther. If, however, you will watch, you will see that it soon becomes dry, and then it will spread its wings and sail away like a miniature aeroplane, as Pyxie has well said. Its mate is probably waiting for it over there in those reeds.

"But while we are waiting for it to dry, Willie, suppose you and Tommy wade in here near the beach and get Pyxie some of those lovely pond-lilies."

"Hurrah!" yelled Tommy, yanking off his shoes and stockings and splashing in, followed by Willie. Soon they had their arms full of the beautiful, sweet-smelling white flowers, and they came back to us just in time to see the Dragon-fly, wings full spread and

dry, still standing upon the reed, but all a-quiver with the desire to fly away. Its body was black with yellow stripes, and in the middle and on the tips of its shimmering silvery wings, as thin and transparent as the finest of lace, were blotches of black.

"Isn't it a beauty?" asked Pal of Willie and Tommy.

"Golly!" said Willie, getting as close as he could, "it certainly is! What is its name?"

"It is called the 'Beauty Dragon-fly,' as I was just telling Pyxie. Don't you think that's a good name?"

"You bet!" answered Willie. "Isn't it, Tommy?"

"Yes!" said Tommy, slyly giving it a poke with a reed when Pal wasn't looking. At that it roused, and leaping from the reed skimmed far away above our heads.

*The Dragon-flies dart here and there
Like aeroplanes in flight.
They will not darn up children's ears
As some folks say, nor bite.
They lay their eggs, which hatch to nymphs
That live in shallow waters
Till they grow up, crawl out, and fly,
Their parents' sons and daughters.*



THE RUBY-THROAT

The Ruby-Throat



NE morning Pal and I were sitting on the porch which faces on Mother's old-fashioned flower garden, when the loveliest little Humming-bird flew right into the honeysuckle vines near us, and darted about from flower to flower sipping its morning cup of honey.

"Oh, look at the darling little Humming-bird, Pal! Now this is a good chance for you to tell me about them. Are they so small because they just live on honey?"

"Why, no, Pyxie, they don't live on honey alone. Their real food is insects. These they generally find inside the flowers, from which they also sip the honey."

"But don't they hurt the flowers with their sharp little bills?" I asked.

"No, indeed, they protect them; for the insects on which they feed might destroy the flowers were it not for our little friends."

All the time we were talking the little bird was darting from one flower to another, its tiny wings moving so fast that they appeared only as a blur. "Hum-hum-hum," we heard, as it came closer and closer, in among the vines.

"Why, its wings just say its name, don't they, Pal? And it's not the least bit afraid of us! Now be good and tell me their whole story."

"Whose whole story?" called Tommy, as he and Willie ran around the corner of the house.

"The Humming-bird's story," I said.

"Oh-h!" said Tommy, "why don't you tell us about some big bird like an eagle. Humming-birds ain't nothing!"

"Yes they are, too; aren't they, Pal?"

"Well, of course," said Pal, "if Tommy thinks they're nothing he probably won't care to stay and listen to the rest of my story; but perhaps, Willie, you will come up on the porch, and hear what I am telling Pyxie."

Tommy stood still, snatching the honeysuckles off the vine and throwing them on the ground, and I knew that he wanted to hear, too.

"Why, I'd just as well stay, now I'm here," he said, and I saw that Pal had a funny smile on his face.

So Tommy sat down on the steps, and Pal continued:

"There are, all told, I believe, about four hundred kinds of humming-birds in North and South America."

"Four hundred!" I cried. "Why, I've never seen but two kinds! One was a beautiful shimmering green like that one that was just here, and the other was the same color, except that its throat looked like a big, brilliant ruby."

"Then you've only seen one kind," said Pal, "because we have only one kind in this part of the country. The green one you saw, which had a white throat, was the mother-bird, and the father-bird is the one with the ruby throat. All the other kinds live in the tropical part of this hemisphere."

"I think it's the prettiest bird in the world. Don't you, boys?"

"Yes, I believe it is," said Willie.

"No," said Tommy. "It's too little. Now I like hawks and eagles, and birds that have got some sense."

"These little birds have plenty of sense, Tommy, as I will show you if you want to go with us down to the apple orchard."

"Oh, Pal!" I said, "is there a nest down there? Is that what you are going to show us?"

"No," said Pal, "I am not going to *show* you, I am going to let Tommy see if he can find it, for these little creatures that he says have no sense have so much about building their nests that smart little boys like Tommy can very seldom find them."

We all four went down the garden path, where tall hollyhocks stood like sentinels on each side, and

on through the grove into the orchard. Pal stopped in front of one of the trees and said:

"Now, children, see if any of you can discover a nest in that tree. Of course a smart little boy like Tommy can find it at once!"

We looked and looked, but not one single nest could we see.

"Pooh!" said Tommy. "Don't believe there is one here."

"Yes there is," Pal said, smiling, "for I am looking at it right now."

I giggled and Tommy scowled. I love to have him find out sometimes that he isn't as smart as he thinks he is. But I was puzzled, for though I looked hard I could not see a sign of a nest. Just then, however, almost above our heads, we heard the greatest screaming and squawking, and a faint squeaking and clicking and a humming of wings. Of course we all looked up.

"Oh! look at that beautiful bluebird!" Willie cried, as a big Blue-jay flashed among the branches. "And see! the Humming-bird is darting after him."

"Pal, Pal!" I said, "the Humming-bird seems to be actually attacking the big bird, and driving him from the tree!"

"Yes, Pyxie, that is exactly what he is doing. The Blue-jay had probably come into the tree on a hunt for birds' eggs, and the father-bird knew that his mate, the little mother-bird, was sitting on her eggs

right in this tree; so he determined to drive him away at once."

"But can a little tiny bird like that really drive away a bird more than fifty times bigger than he is?" I asked.

"Yes, Humming-birds can, for they are very courageous and absolutely fearless, and will attack any bird, no matter how large, that comes too near their nests. But now back to the work of finding the nest. Can't any of you see it? It's in full sight."

But try as we would we could not see anything but the leafy gnarled limbs of the old apple tree.

Then Pal, seeing that we had failed, gently pulled a bough a few inches toward us.

"Can't you see the nest now?"

But still we saw nothing—when all of a sudden the shimmering green body of the little mother-bird darted from a small knot on the branch that Pal held. He pulled it closer as she flew round and round us, giving sharp little squeaks and humming her wings, and there, in what we had thought was a knot, were two of the cutest little pure white eggs, about the size of small peas!

"Oh! Oh!" I exclaimed. "What tiny eggs!"

"How could she build such a darling nest and make it look just like it was a part of the tree?"

It was fastened right across the limb, a little gray-green lichen covered knot, about the same size and color as the other real knots on the branch, but lined

with the softest down that the birds had found in some old cat-tails in the swamp below the orchard.

"They *are* cute," said Willie, "the very littlest eggs I ever saw. Will the mother-bird lay any more?"

"No, Willie, Humming-birds lay only two eggs; and if we go away now and don't frighten the mother-bird too much she will hatch them out in a few days, and then we can come back and watch her feeding her little ones."

"Oh, I'd love to do that," I said; and the boys agreed that they would, too.

Pal then let the branch go gently back.

"Now, children, I want you to promise me that you won't come near this tree again until I bring you. Promise?"

We all said we would, though I think Tommy hated to; and Pal explained that if the Humming-bird discovered that she was being watched it might make her nervous so that she would desert her eggs and go off somewhere else to build a new nest, and lay two more eggs where she could hatch them without fear of harm.

In a little over a week we were romping about the yard one afternoon, when I heard the whistle by which Pal always called me.

"Listen!" I said. "There's Pal calling." And we looked down toward the orchard and saw him there beckoning to us. "Oh, I hope it is the little Hummers hatched out. Come on!"

"Bet I can beat you down," said Tommy, as he raced away; and we ran as fast as we could after him.

Sure enough, when we got there Pal was holding the limb down for us to look once more into the nest of the little green mother-bird. And there we saw, instead of the two eggs, two little downy babies with their mouths wide open, squeaking for food.

"Sh-sh," said Pal, and we stepped back as he let go of the limb. "Here comes the mother-bird to feed them."

Down she darted, and kept thrusting her long, sharp bill down the throat of one of her babies.

"Goodness," I said, "she's going to stab it to death, I do believe. The poor little thing!"

"No, Pyxie, she won't hurt the little one. That is just the way she has of getting the food out of her throat and into the throats of her babies. She goes out and swallows ever so many insects and honey, as we saw her doing in the honeysuckles, and then comes back and feeds her babies with it all, as you see her doing now."

"Well, that's a funny way to get their food, out of the mother's throat! How soon do you think they will be able to fly about and get it for themselves?"

"In a little more than two weeks," Pal said, "they will have grown big and strong enough to leave their nest. Then the parent birds will teach them how to fly and show them how to find their own food; and when their wings are quite strong, and they feel the

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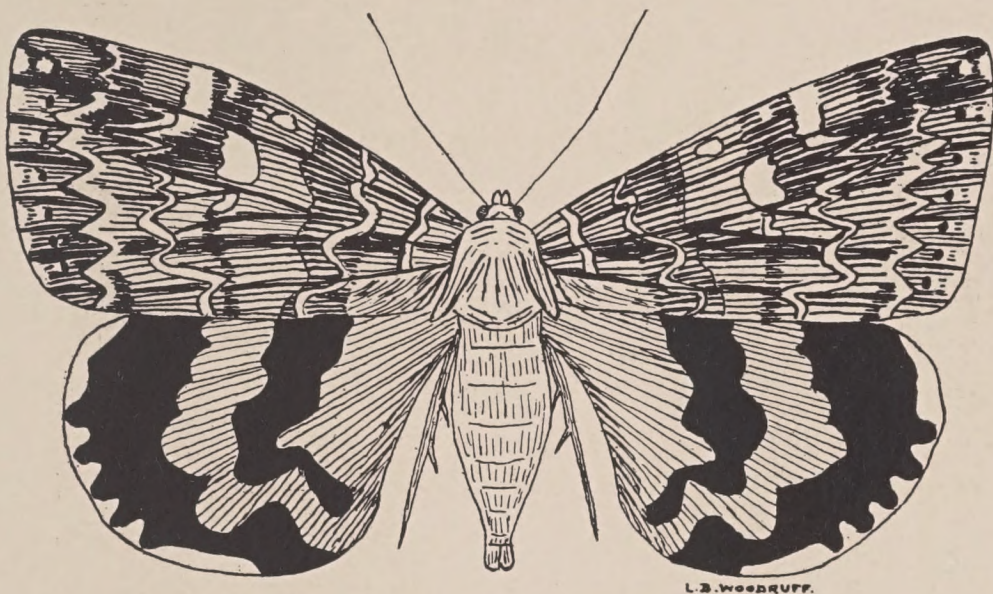
first cool breath of fall, they will join a flock of other Humming-birds and all fly South, loitering each day long enough to get their breakfast from the flowers they are passing. For they are then on their way to their winter home in Central America."

*The Humming-bird is the tiniest bird that ever you
can see.*

*It builds its nest like a little green knot on the bough
of an apple tree.*

*In the morning hours it sips from the flowers its
breakfast of honey and dew,*

*And flashing its beautiful ruby throat hums "good
morning" to me and you.*



THE SCARLET UNDERWING

The Scarlet Underwing



MY PAL had been away, so I had not gone tramping in over two weeks; and all that time the little wood-folks had been calling, calling us to come out and visit them. Finally the evening came for his return, and I started down the road to meet him. The big trees on each side looked black against the sky, and seemed to point threatening fingers at me; but I wasn't afraid, and ran past them, for I was going to meet my Pal.

We spied each other almost at the same moment, and he held out his arms and I ran and jumped into them, saying, "Oh, Pal, I'm so glad you're back!"

"And I'm glad to get back to my little Pyxie, too," he said. "If you were going to be a Pyxie and steal my heart, why didn't you stay little enough to fit in my vest pocket, so I could always take you about with me?"

I laughed. "What have you got in there for me this time?" For I knew he had something—

he always did have. So I slipped my fingers in it, while he stood smiling, watching me, and pulled out a little tissue paper package.

"Oh, goody!" I said, dancing up and down. "What is it?"

"Look and see," he laughed.

I unwrapped it as quickly as I could and found the nicest little magnifying glass you ever saw, with a chain to go round my neck so I couldn't lose it.

"Oh, Pal," I cried, and gave him a hug around the knees. "Now I'll always have one to examine things with when we go tramping, won't I?" Then I took his hand and we started to walk home together; but just as we were passing those big trees something on one of them drew his attention, and he stopped and said: "Sh-sh! There's a Scarlet Underwing Moth!"

"Where—where!" I whispered, for I had been wanting to see one for a long time, ever since he had told me they were such pretty moths.

He took my hand and we walked to the tree. I looked up and down the trunk, and then peered all around it, as far up as I could, but I didn't see one single thing.

"Why, I thought you said you saw an Underwing Moth on this tree?" I said, disappointed.

He smiled, and almost touched the tree with his finger right in front of my eyes, and then I saw there was a moth there, almost two inches long, whose wings were so exactly the color of the bark that I am

sure no one but Pal ever could have discovered it. I must have stuck my face too near, however, for before Pal could catch it, away it flew, and was lost to us in the dusk.

"Oh, isn't that too bad! I did want to look at it through my glass!"

"Never mind, Pyxie. We'll catch some tonight, if you say so, for they fly after dark, you know."

"How can you see to catch them?"

"We'll take a lantern and go sugaring."

"Sugaring!" I said puzzled. "What do you mean by that?"

"I'll show you right after supper."

I gobbled my supper as fast as I could, and couldn't understand why it took the others so terribly long to finish. Finally we were through, however, and I hollered for Tommy and Willie, while Pal got things ready, and then we all started for a strip of woods not far from our house.

"Here, Tommy, you can take this pail," Pal said, as we crossed the road; "and you can carry the brush, Willie."

"Pal, please let me carry something!"

"All right; you can carry this poison jar." And he handed me a glass jar with a cork stopper, much bigger than the one he usually carries in his pocket, in the bottom of which was some poison whose fumes he told us would put any of the little wood-folks to sleep forever and ever, if they should be dropped into it.

"What's in this pail, anyhow?" asked Tommy, sniffing at it. "Smells to me like molasses."

"It is," said Pal. "Molasses, stale beer and brown sugar."

"Gee!" said Tommy. "What an awful mixture! What are we going to do with it?"

"I'll show you right now," said Pal, for we had come to the edge of the woods, and he stopped in front of a big tree. "Here, Willie, hold this lantern—up—so—as high as you can. There! Now, Tommy, hold the pail closer, so I can dip the brush in. There!" And Pal, dipping his brush, began painting a place about a foot square on the trunk of the tree. Willie was so astonished he almost dropped the lantern, and even Tommy's mouth hung open.

"For goodness sake, Pal, what are you doing?" I asked, quite as surprised as the boys.

"I'm sugaring," he said, as he led us on to the next tree. "The smell of this mixture will attract the Underwing Moths as well as many other kinds, and they will come to these trees to drink it. After they have sipped a little of it they become rather tipsy, which makes them clumsy and less likely to take alarm when approached, and I can catch them quite easily in the poison jar."

"Golly! That's a bully stunt," said Tommy. "Let me paint awhile." And he began splashing the trees all up with the sticky, sweet mess. Then Willie and I took our turns at painting, and pretty soon we had stuck up nearly every tree along that strip of woods;

but, though we went back and looked for the moths, not a single one had appeared.

"When are they going to come, Pal? We can't paint all night!"

"No, we've painted more than enough now, so we had better sit down and wait awhile." He drew the slide across the light in the lantern, and we all sat down together on a log and waited.

It was not long before Pal said it was about time to examine our trees; so we got up and went back to the first tree we had sugared. Then Willie, holding the lantern high above his head, pushed the slide back and flashed the light full upon the tree-trunk. There we saw several gray and brown moths on the "sugar," but Pal, looking at them closely, said he did not want any of them; so we went on to the next tree. When Willie turned the light on that, Pal said softly: "Be quiet, children. There are three Underwings."

And there, low down on the "sugar," stood three large moths with gray upper wings, mottled like the one Pal had shown me before supper, but these had the most beautiful scarlet lower wings with curved black bands on them, just showing from under the upper wings.

"Aren't they gorgeous! Are they drinking it, Pal?" I whispered.

He nodded, and went up to the tree-trunk carefully, so as not to startle the moths, holding the poison jar uncovered and with its opening toward the tree, until it came within a few inches of the lowest

big moth. Then "slap!" he went and covered the moth with the jar.

"Hooray! You've got him!" shouted Tommy. And sure enough he did have him, for the moth, after a little fluttering, settled down, making no further effort to escape, and Pal corked the jar up tight. Presently he transferred it to another jar, so as to be ready to catch the next one we should see. It was lots of fun, and he let us all catch some ourselves.

In this manner we caught many more, including several different kinds that Pal needed for the museum.

"I think sugaring is the bulliest kind of fun," said Tommy. "Don't you, Will?"

"Yes, and when I'm a man I'm going to 'sugar' for a museum, too."

"So am I," I said.

As we started home the big moon came up and peered at us over the trees.

"Look at the Old Man in the Moon!" I said. "He looks as if he were saying, 'What in the world are you doing out so late?'"

Tommy turned round and made a face at him and said: "You're a fine old fellow to say that! You stay out 'most all night yourself."

When we got home Pal took all the moths from the jar and selecting a large Underwing, spread out its wings.

"Oh-h, how pretty!" I exclaimed, as the brilliant scarlet underwings flashed up at me.

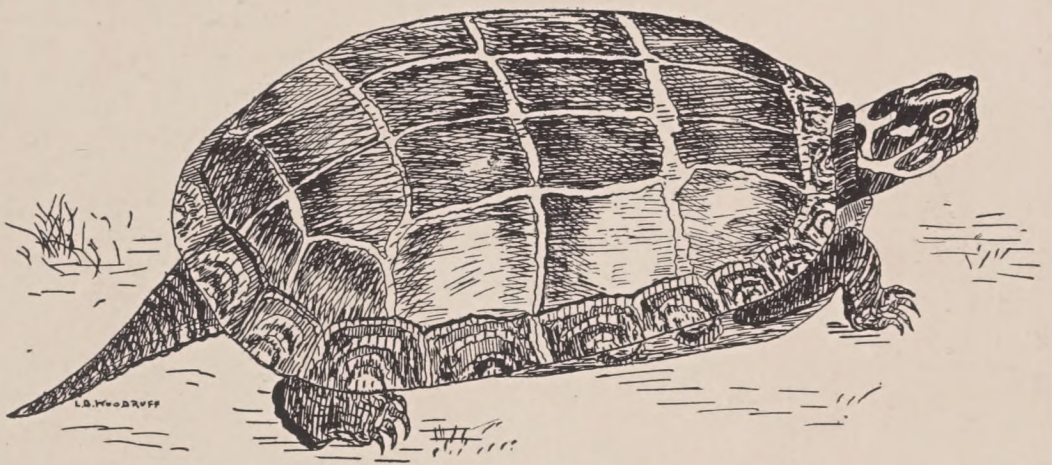
"Ain't she, though!" Willie said; and Tommy whistled.

"Can't you tell us her story, Pal?"

"Certainly, Pyxie. To begin at the beginning, she is first an egg, laid by the mother moth on the leaves of a big tree. When that egg hatches, she is a little caterpillar, and after she has eaten plenty of hickory leaves and grown to be a big caterpillar, she crawls slowly down the trunk of the tree, and buries herself beneath the moss at the foot. Here she spins her cocoon. In this cocoon she sleeps until she has completed her change from a caterpillar to a pupa, finally hatching out into the beautiful moth you now see, and then she crawls up the trunk a little way and waits there for her wings to dry. She does not fly about during the day, but stays with her forewings closed (carefully covering her brilliant hind wings) on a tree-trunk, and is so like it in her markings and color that her enemies, the birds, can hardly ever find her. But at night she spreads her wings and flies about looking for something good to eat, for she is one of the little night creatures who help keep guard over us in the dark."

*The Underwing Moth, throughout the bright day,
With front wings all mottled with black, white and
gray,
Clings close to the bark of the hickory tree,
So matching the bark that she's quite hard to see.*

*But at night, when her enemies sleep, she flies forth
To the flowers, a wonderfully beautiful moth;
For, without fear of harm, her gray wings are out-
spread,
Disclosing her hind wings of black and bright red.*



THE PAINTED TURTLE

The Painted Turtle



AL had promised for a long time to take me canoeing on a little river that ran through the shady woodlands about two miles from our home. And so one morning, when the sun laughed in at my window and woke me up, I decided that it would be a good day to go; so

as soon as I could get dressed I ran out into the garden where I found Pal sitting with a book in his hand, and gave him his good-morning kiss.

"How about going on the canoeing picnic today?" I asked slyly.

"That's a pretty good idea, Pyxie," he said, shutting his book and getting up from the bench on which he sat. "As soon as we have breakfast I'll put on my tramping clothes and we will start out."

"Oh, then I'll go right now and fix the lunch!" I cried, skipping toward the kitchen door.

I was so excited I ran plunk against Mary, the cook, and almost knocked her into the milk-pails.

"An' faith! what do ye think ye be doin', a-knock-in' a lady down in her tracks before breakfast," she exclaimed, taking me by the shoulders and steadying us both.

"Oh, Mary," I cried, "Pal and I are going on a picnic, and I want to fix a perfectly delicious lunch;" and I began busying myself about the kitchen, Mary grumbling good-naturedly every time I took anything she thought I oughtn't to have.

Soon I had a lunch fixed that would make anybody's mouth water, and I felt sure Pal would like it. I put up hot coffee for him and cold milk for me in thermos bottles, and chicken and jam and cake in the basket, and as many kinds of sandwiches as Mother has at an afternoon tea. Of course I tasted everything as I put the lunch up, and then Mother wondered why I couldn't eat any breakfast. But Pal guessed, I suppose, and we exchanged winks. Mother is always afraid to have me go on the water, even with Pal, but promising her I would sit very still I gave her a hug as soon as breakfast was over, and jumped into the buggy with Pal.

We rattled away, sometimes in the shade of the trees that stretched their arms across the road, then through long, sandy stretches, where I could feel the freckles just jumping out on my nose; until finally we came to the bank of the river, where Pal had a little house in which he kept his canoe.

While he was busy getting the canoe out of the

house and into the water, I tied "Old Draggletail," as Tommy calls her, to a tree.

"Now be careful, Pyxie," Pal said, as I started to step into the canoe. "Step exactly in the middle, or you might tip it over."

I did, and was soon settled comfortably among the red cushions; and Pal, taking his place, began paddling the canoe up the river.

"Oh, isn't this lovely! We're just skimming through the water without making a ripple. Can I let my hand drag in the water?" I asked.

"Yes, if you put both hands out, one on either side, and are careful not to lean over either way," he answered; "for you don't want to tip over and pay the bottom of the river a visit, do you?"

I laughed, and carefully put my hands over the sides into the water and holding my fingers apart let them trail along just beneath the surface. A fine spray danced about them, looking just like little water sprites running a race.

We passed under low-hanging boughs of hemlock, where the water looked black and scary. A little red squirrel ran out to the tip of one of the branches, stopped, and curving his tail over his back chattered and scolded at us, as much as to say—"What are you doing so near my hemlock tree?"

Then we darted out from the shadows into the sunshine, where the river was blue and sparkling again; and then on and on we paddled, passing banks where little Muskrats had their homes; and once, where

the river ran again through a thick piece of woods, we saw a little Oven-bird's nest among the ferns, high up on the bank.

"Oh, look at the turtles!" I cried, as we went around a bend in the river where a dead log lay partly in the water, almost in front of us. "Aren't there a lot of them?"

Their quick eyes just then caught sight of the canoe, and stretching out their long necks and snake-like heads they quickly crawled with their flipper feet to the edge of the log and plunked off with a splash into the water out of sight.

"I never saw that kind of a turtle before," I said. "They are so gayly colored. What are they?"

"They are what is known as the Painted Turtle. The ones you have seen have doubtless been Box Turtles that live on land and are smaller, and whose shells are mottled black and yellowish brown."

"Can't you tell me something about them?" I asked. We were now passing reeds and grasses and shallow places where cat-tails grew, and Dragon-flies darted hither and thither.

"Why, yes, Pyxie; and I can show you something about them, too, if we draw our canoe up here on this sandy beach. It's about time for lunch, anyway, isn't it, little girl?"

And, my stomach agreeing with my head, I nodded, and we landed upon the sand and sat down under a nearby oak for our picnic.

"My, but these sandwiches are good!" he said,

taking one from the basket and biting a big piece out of it.

"But the Painted Turtles," I said, biting into my sandwich, "what do they look like, exactly? I didn't half see them, they scuttled off the log so fast."

"As you have seen," Pal said, "they carry their houses about upon their backs. If they are on land, which often happens, at the approach of an enemy they can draw their heads and feet into their shell, or house, and curve their thick, short tails around one side of their bodies under the edge of the shell so that nothing shows but their hard covering, and thus they are protected from their enemies. When sunning themselves on a log, however, as you have just seen them doing, they stick their heads, legs and tails out of the shell. Their heads, which have very long necks, and their legs are marked with yellow, red and black stripes, and the edges of their shells look very gay with the same colored markings."

"Their heads are the shape of a snake's," I said. "Are they related to the snakes?"

"Yes, they are cousins to the snake, I should say, but like most of the snakes they are perfectly harmless. They are very timid creatures and seldom let any one see how really beautiful they are. But do let's finish our lunch, Pyxie, and then I'll tell you some more about them."

Pal ate and ate, just as I knew he would, and then, after we had quite finished, we rose and went back

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to the beach, and he took up the thread of our story again.

"See these tracks in the sand?" pointing to them. "These are the tracks of the Painted Turtle. Her legs are so short that as she walks her shell keeps dragging on the ground and makes these tracks."

"What in the world was she doing up here?" I said.

"Let's follow the tracks and we'll see."

We did so, and when about two or three rods back from the water's edge we found a slight depression in the sand. Pal began digging with his fingers, and after getting a few inches down what do you suppose we saw? Lots and lots of the funniest long, narrow, white eggs, that were the same shape at both ends.

"Eggs!" I cried in surprise. "Aren't they, Pal?"

"Yes," he said, "eggs of the gayly colored Turtle you have just seen."

"Aren't they funny! Can I pick one up?"

He smiled and nodded; so stooping, I took one in my hand. It was as soft and pliable as it could be.

"Why, these don't feel like eggs," I said. "The shell is all soft and mushy."

"Yes, that is because they have just been laid. The Turtle crawls up here, and digs a little hole in which she lays them. Then she pushes the sand back over them, and after a little while the shells become hard like those of any other eggs."

"And doesn't the Turtle sit on them, or attend to them at all?"

"No," Pal said, "for the warmth of the sun makes the sand hot, and that soon hatches them out, and away the little ones scuttle to the edge of the river and plunk down into the water, just as you saw the big ones doing as we paddled by them. There they stay until the river begins to freeze over and they find it growing cold, when they swim down and bury themselves in the mud at its bottom and sleep all winter."

*The pretty Painted Turtle,
Its house upon its back,
Crawls up on sandy beaches,
And leaves a well-marked track.
It digs a hollow in the sand,
And lays some dozen eggs;
Then back it waddles to the stream
Upon its clumsy legs.*



The End

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